

WOODWORKING Plans & Projects

Tips for perfect mitres

FEATURE

Karl Smith –
Sculptural Woodworker

ON TEST

Shapton Ceramic Stones
Logosol Joinery Machines

TECHNIQUES

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Woodworking – enjoyed by all

REGULARS

Hello and welcome to the March issue of *Woodworking Plans & Projects*. We have the usual lively mix of projects and hopefully there is something for everyone. Amber Bailey is back in action again with a relatively simple cameo marquetry project; we have an upcycled pallet table by Neil Lawton and Louise Biggs makes a table and stool in oak (*Quercus robur*) to match the dining chairs she showed us some issues ago. Should you be thinking of building a shed, Simon Rodway completes his shed plan with a natural light illuminated roof, based on his own one, which he built a while ago; not to mention Chris Grace's longstanding pergola and Jamie Lake's bathroom cabinet.



PHOTOGRAPH COURTESY OF THE MARC ADAMS SCHOOL OF WOODWORKING

Marc Adams demonstrating marquetry techniques

Enjoyed by all

This all goes to show that there are plenty of people making in wood – of both sexes, which I think is important to emphasise. It isn't just a 'man thing' at all, and this is a good time of year if you haven't already made a proper start in your shed or workshop to get it sorted out and ready for the good weather and more pleasant times ahead. While marquetry can be done on the kitchen table, unfortunately bigger projects need more space and equipment.

Easter projects

It isn't that long before the Easter Bank Holiday, which is the major kick off time for DIY both indoors and outdoors. Unfortunately, it is also when the most accidents doing DIY occur. So maybe now is the time to check that your tools are sharp and work properly and you have good work clothing in stock and safe steps and ladders. Falls from heights are one of the most common and serious types of accident so making sure you have all the means to work safely, ahead of actually doing any intended projects that involve being off the ground, is really important.

PHOTOGRAPH COURTESY OF WWW.MIKESWOODWORKINGPROJECTS.COM



Always work safely when using woodworking tools and accessories

Get in touch

Just a reminder, you can always get in touch with me with comments or ideas for what you would like to see in the magazine. Of course you can buy *Woodworking Plans & Projects* in your newsagent, but why not take out a subscription so you never miss a copy, if you haven't already done so? You can also download the digital edition for reading on a tablet or your smartphone by visiting www.pocketmags.com, which allows you to make a real cost saving. And last but not least, you can also visit our very own Woodworkers Institute website – www.woodworkersinstitute.com – which allows you to access Europe's biggest online archive of woodworking articles and lots of useful woodworking content – all for free. Stay safe and above all, have fun!



Why not download a digital version of the magazine to your tablet or smartphone?

PHOTOGRAPH COURTESY OF WWW.POCKETMAGS.COM

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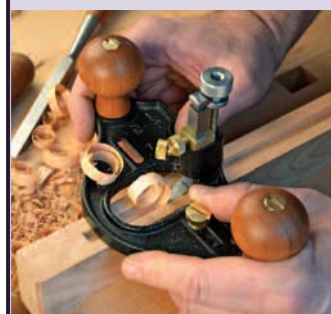
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Noticeboard

All the latest events and news from the world of woodworking...

Peter Lanyon Furniture courses



PHOTOGRAPHS COURTESY OF PETER LANYON



Peter Lanyon has been making furniture for over 20 years and is offering a great variety of green wood furniture courses from the Devon Green Wood Centre on the picturesque South Devon coast, and other venues across the county. Peter uses traditional tools and techniques in his courses, as well as local materials, suitable for beginners and those who are building on skills they already have.

A particularly interesting course is the creative seating course, which combines the skills of traditional chair-making and techniques from freeform green wood furniture construction. Peter gives you the

chance to work under guidance, on irregular shaped wood to create a visually stunning piece. The course explores the sculptural elements possible in chair-making and, best of all you will be able to take your unique piece of furniture home. Peter's creative seating course takes place 19-24 May, 2015, so be sure to book your place before you miss out. See below for further details.

DETAILS:

Contact: Peter Lanyon

Tel: 07814 470 432

Web: www.peterlanyonfurniture.co.uk

Spring into summer with Liberon

Spring will be here before we know it. Time to clear the leaves, plant your bulbs and get your garden furniture ready. Before treatment, all traces of dirt, mildew and grime need to be removed from the wood. Liberon Garden Furniture Cleaner prepares all types of wood while helping to prevent fungal regrowth. Just add two capfuls of cleaner to a bucket of warm water and apply using a scrubbing brush for the best results, then allow to dry for 24 hours.

The next step is to apply Liberon Garden Furniture Oil. It feeds, seals, nourishes and protects, plus with its added UV filters it helps protect the timber from discolouration. The oil will bring out the natural beauty of the wood and make it water resistant too. Now that the furniture is looking beautiful, it will put your decking to shame, so, treat your decking to some TLC with Liberon Decking Oil. This product is UV advanced and suitable for most types of decking. It is water and UV resistant so even if your decking is newly laid this treatment will feed, protect and seal the

wood, keeping it looking new for longer.

There are different recommendations for the treatment of soft and hardwood decking. Softwood will absorb the oil so once applied, reapply after 15-30 minutes. If oiling hardwood, best results will be achieved if following each application any excess is wiped off. If the hardwood decking is new, leave the wood untreated for a year to allow the grain to better absorb the oil.

For more information, check out Liberon's YouTube channel: www.youtube.com/user/LiberonProducts.



PHOTOGRAPH COURTESY OF FLARE COMMUNICATIONS

DETAILS:

Contact: Liberon

Tel: 01797 367 555

Web: www.woodcareexpert.co.uk

Upcoming courses at the Axminster Skill Centre

Having been providing regular courses since the late '90s, the Axminster Skill Centre continues to provide a schedule of exciting and informative courses throughout the year. Taught by Axminster's skilled tutors, students will learn within a committed and friendly environment. You can learn new skills, top up your techniques or work on specific projects offered in the courses. There is a course for every woodworking interest, so be sure to not miss out on the opportunity to learn in a fun, friendly and professional environment.

Axminster offer a great number of courses in engineering, power tools, routing, woodcarving, woodturning and woodworking, but they also offer taster courses, perfect for those who are taking up a woodworking hobby, or are thinking of trying a new form or skill. Each category is then split into further specific courses, to narrow down in the subject focus areas. Some of these courses include a two-day Adirondack chair making course; a two-day bee hive making course; a three-day laminated rocking horse



course; a two-day wood machining course; a five-day Windsor chair making course and a number one one-day courses in using bandsaws, using pyrography, scrollsaws, sharpening, spindle moulding, fine-tuning hand planes and hand tools as well as making hand tool and woodturning jigs. And they are only in the 'Woodworking' category!

Each course is taught in groups of five to six students, in course rooms fitted out with an extensive range of tools and machinery, offering students plenty of hands-on experience. Through these small teaching groups, students are guaranteed to receive a



high standard of tuition and guidance. As a bonus, most courses leave the student with projects, samples and test pieces to keep for future reference or simply as keepsakes.

DETAILS:

Contact: Axminster Skill Centre

Tel: 08009 751 905

Web: www.axminsterskillcentre.co.uk

The Midlands Woodworking and Power Tool Show

The next date in the woodworking event calendar is this year's Midlands Woodworking and Power Tool Show, which takes place from 27-28 March. Advance tickets are now on sale for the event and the demonstrator list has been announced. There is something to appeal to every woodworking discipline, whether you're a woodturner, woodcarver, have a special interest in finishing, or prefer general woodwork. On the turning side of things, you can expect to see Jennie Starbuck, Tony Wilson, Mick Hanbury, Reg Slack and Andrew Hall. Master woodcarver Michael Painter will also be demonstrating as well as finishing expert Mark Raby and furniture maker Peter Sefton. This event is billed as a great day out full of demonstrations, personalities, trade stands and fun. In addition to this great line-up, the show also boasts free parking, show guide and raffle. You can receive the latest news and keep up-to-date with the latest announcements by visiting the Facebook and Twitter pages for the event. See below for further details.



Jennie Starbuck



Mark Raby



Mick Hanbury



Reg Slack



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Contact: Nelton Exhibitions

Tel: 01474 536 535

Web: www.nelton.co.uk

WOOD NEWS

Effect of CO₂ on tropical forests

With tropical forests containing a quarter of all the carbon found in living things, they have been suggested to be a major carbon sink. They remove carbon dioxide from the atmosphere, which left in the air, would help retain more heat in the atmosphere and have more of an impact on climate change. This, researchers believed, would act as tree fertiliser and boost their growth. However, new findings say otherwise.

These contradictory results come from scientists who have analysed over 1,100 individual trees from forests in Bolivia, Thailand and Cameroon. Previous studies made inventories of the total number of trees in particular regions of tropical forests and found the numbers increasing. The new results mean that tropical forests are becoming more dense rather than individual trees growing faster, as previously had been thought.

The study came about as over the past 150 years, the concentration of carbon dioxide in the atmosphere has increased by 30-35%, therefore driving more photosynthesis, causing faster growth and fatter tree rings. This would then be assumed to boost tree growth.

However, Peter van der Sleen at Wageningen University, The Netherlands and his colleagues found no such increase in the 1,109 trees from 12 species they studied. Peter explains: "It was very surprising. The results call into question whether tropical forests are carbon sinks. The experiments that predicted accelerated tree growth with increases in carbon

dioxide are elegant and convincing. Why tree density would be enhanced but not existing tree growth is very difficult to answer."

A network of 50m-high towers have been installed in some forests measuring the concentration of carbon dioxide in the air above the

tree canopy. Results show that CO₂ appears to be pulled from the air by the forests, the question is, where does it go? The new finding could indicate that such forests are not helping mitigate the effects of climate change by removing excess CO₂ from the atmosphere.

Have a forest adventure with Superworm in 2015

From the creators of *The Gruffalo* and *The Gruffalo's Child*, the hugely popular children's story *Superworm* will come to Forestry Commission England's woods and forests in 2015. *Superworm* tells the story of how a superhero worm and his mini-beast friends defeat the villainous Wizard Lizard.

From 13 March until the end of October, families can enjoy *Superworm* activity trails at around 20 selected sites across the country. Each activity trail will include up to 10 stops and take around one hour to complete – distances will vary between 800 and 1,500 metres.

At each stop, visitors will discover a panel containing activities and questions inspiring them to use the *Superworm* story and its characters to think about the woods and forests around them. The trail has been designed by Forestry Commission England's learning team to have activities suitable for children aged 3-6, as well as elements that will

appeal to 6-8 year olds.

The activities will encourage children to use their 'superhero' senses and powers of discovery and creativity; from discovering the touch and smell of the forest to becoming nature detectives. Additional activities created by the Youth Sport Trust will also excite young adventurers to become super-fit like Superworm.

Special packs with additional things to do, including a sticker sheet, activity leaflet, string to make your own Superworm and a limited edition *Superworm* mini-book, will also be available to purchase onsite.

Over one million visitors followed Forestry Commission England's Gruffalo trails in the summer of 2014. See below for further details.

DETAILS:

Contact: Forestry Commission

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Marquetry cameo set

Amber Bailey uses her treadle fretsaw to produce duplicate copies of marquetry and makes three cameo patterns

PHOTOGRAPHS BY AMBER BAILEY



This magazine has featured a number of my marquetry projects, usually consisting of the contemporary knife-cut window-method. This time I have decided to take a slightly different route.

Traditionally, marquetry would have been cut with a saw – not only is this an enjoyable process but it also has one great advantage as it is ideal for producing pieces in batches.

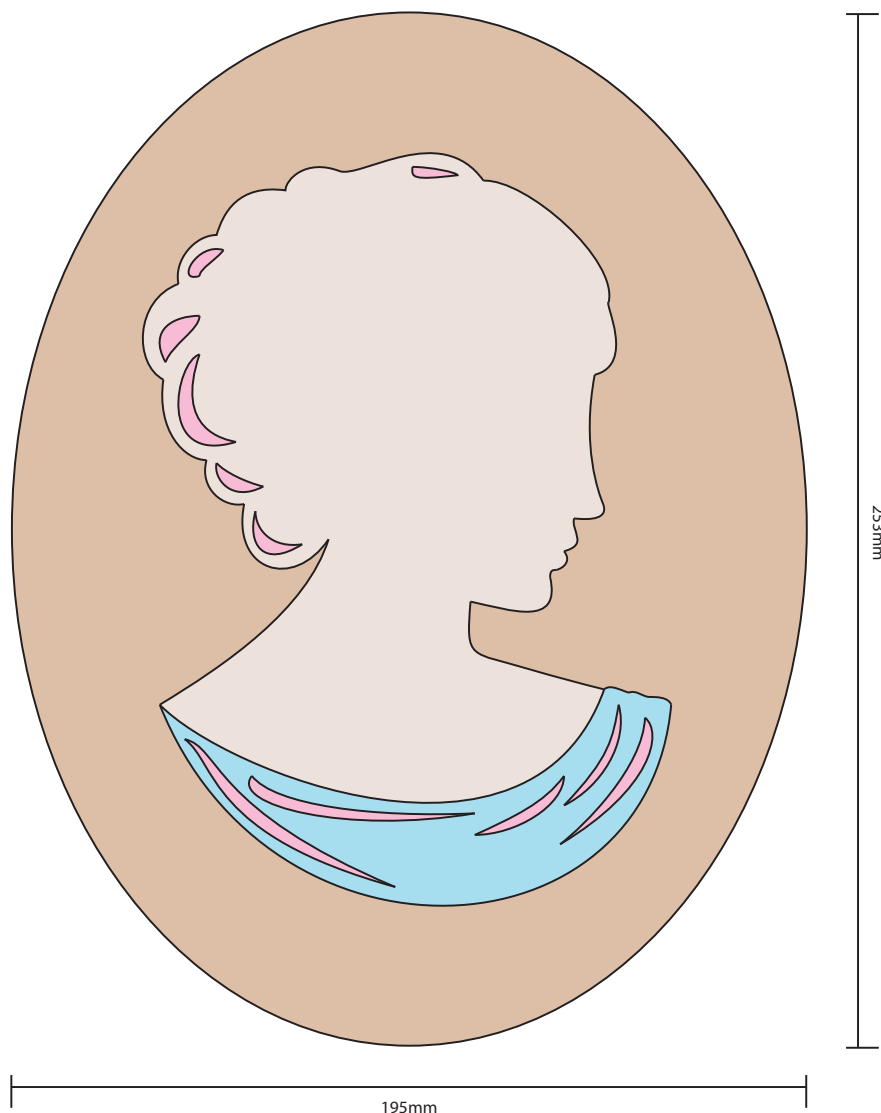
Conventional saws are either a marquetry donkey or

fretsaw; however, there is one little invention that I have grown increasingly fond of – the Hobbies treadle fretsaw. The saw went into circulation during the 1920s as an amateur woodworker's version of the heavy-duty treadle fretsaws, which were traditionally used in workshops for cutting chair back splats among other things.

Although no longer being manufactured, it is possible to pick a secondhand treadle up for next to nothing. They may require a little TLC and a dash of paint, but that is all part of the fun.

Things you will need

- Two templates of the design
- Various veneers – numbers depending on how many cameos you wish to produce
- Fretsaw/treadle fretsaw
- Veneer tape
- A scalpel – 10A blade
- Cutting mat
- Constructional veneer
- Veneer press/selection of clamps
- Bandsaw or coping saw
- Colle de poisson – fish glue
- Microlight and pigment
- Plywood – approximately 12mm thick – 195 x 253mm
- Sandpaper and sanding block/scrapper
- Oxalic acid
- Isopropyl alcohol
- Osmo oil
- Renaissance wax
- Mutton cloth



The Hobbies treadle fretsaw

Treadle fretsaw

This project primarily uses a treadle fretsaw. For the small detail in the design I have decided to also use a scalpel to account for the kerf of the saw blade and minimise on damage. If you do not have access to a treadle, a normal fretsaw or coping saw will work just as well. This project uses a generic cameo that I have created on the computer, but to make a much more personal design, take a tracing of a side view photograph.

Preparing the packet

1 To ensure that none of the veneers are damaged as the saw blade pulls down, the veneers are made into a packet to provide a support during the cutting process.

2 To make a packet all the veneers need to be cut to the same size and be sandwiched between two pieces of constructional veneer – referred to as waste veneer. These are secured in place with veneer tape. Some people also choose to use veneer pins for extra security but this is not strictly necessary. When preparing the veneers for the packet, it is a good idea to back them with newspaper to stop the fibres breaking up. Also consider the direction of the grain for each piece of veneer in correspondence with the design.

Health & safety

1. To clamp down your work while sawing will require your fingers to be very close to the blade. Be wary and ensure the saw isn't going too fast.
2. This project briefly features the 'window method' for cutting the veneers, which involves a scalpel. Always cut at an angle away from yourself; this will avoid the blade slipping and causing a nasty accident!
3. Cleaning the marquetry involves using oxalic acid. Always wear gloves when handling such chemicals.



3 When your packet is secure, attach the design to the top of the packet with spray mount or adhesive.

Cutting out

4 Consider the entry points of the saw into the packet. To cut the detail in this cameo the saw cannot just cut straight through the design, holes need to be drilled to allow the blade to be threaded through. Holes also make turning the blade much easier, so select a drill piece that is similar in size to the blade. Thread your saw blade through the drill hole and saw by following the lines of the design around, gradually taking away each section as it is cut out. If the packet begins to break up and feel too fragile, temporarily tape it back up for support. A fretsaw works with the blade pulling downwards; this means your work will catch and lift with the blade. To avoid this, use your fingers to hold the packet down and move it to follow the design.

5 For this particular cameo, cut out the draped fabric and remove, then carry on along and cut out the head. You should only need the single entry hole to start the process off.

6 Once cut out, separate the veneers and interchange the colours to create several individual designs and temporarily tape this into place.

7 Cut out the very small detail in the design using a knife. Tape a template over the sections of marquetry and cut out the small pieces of veneer. Next, place the marquetry over the desired veneer and cut around the gaps. The pieces should all fit neatly and tightly together. Use a bandsaw to cut out the groundwork in a wood of your choice – I use plywood due to its stability.

Gluing up

8 The kerf of the saw blade will leave a gap around the individual pieces of the design; it is possible to fill these in with wax or you can make a feature out of it. Colle de poisson – fish glue – or animal glue is the traditional adhesive choice. It is still pleasant to work with and can be manipulated. Using colle de poisson, mix up a filler by adding the bulking agent, Microlight and blue pigment, which adds a stark contrast.



1. Think about the number of veneers you are including before you start the project;

too many will make the packet thick and tough to cut and too few will make for a flimsy design.

2. For a project like this, the blades mustn't be too coarse but thick enough so that the blade doesn't snap under the pressure of the packet. Somewhere between 38-66tpi should be suitable.



9 The cameos are ready for the veneer press. If you do not have access to one, clamping between two boards should apply enough pressure with a project this small. Leave the marquetry to dry between 12 and 24 hours and when dry, cut off all excess veneer with a scalpel.

Smoothing the surface

10 The blue filler will leave the surface of the marquetry looking very grubby. To smooth and clean the surface, various grades of sandpaper and cabinet scraping will be required. Follow the grain direction of the majority of the veneer; this will avoid scratching the wood.

11 Chances are there will be a lot of dirt left in the grain. To lift this, wipe on a solution of oxalic acid at two spatulas:100ml distilled water. It is recommended that oxalic acid be left for 12 hours; however, it is technically a bleach, so I suggest neutralising immediately to avoid any colour change. Neutralise with isopropyl alcohol and leave for a few hours to dry.

"Leave the marquetry to dry between 12 and 24 hours..."

Adding a surface finish

12 To apply Osmo oil, rub into the wood grain, then wipe away any excess. Numerous layers can be built up until you are satisfied with the finish. To finish, polish and buff up with Renaissance wax and a mutton cloth.

13 And there we have it – a simple but effective technique for producing duplicate copies of marquetry, each with their own stamp of individuality. ■

Suppliers

To purchase any of the materials, including Osmo oil and microlight, visit: www.axminster.co.uk or any well stocked DIY store.

For veneers, visit: www.originalmarquetry.co.uk or visit your local veneer merchant.



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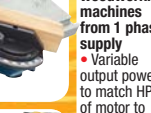
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Fury 3	250/30	75/340mm	£159.98	£191.98	
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CON185

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INCLUDES 15 PIECE SET WORTH OVER £20

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Router not included

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Recycled pallet table



Neil Lawton makes an upcycled pallet table

Whatever the season, there is often a need for a small table to suit our circumstances. There are times when we may wish to entertain friends in the house or garden, depending on the time of year, whether it be sat around the log burning stove in winter, or – hopefully – sat in the summer sun in the garden. To have a table in each area would be quite impracticable and space consuming. There are three seating areas in the garden and apart from the formal dining table, another two in the living room and conservatory – all of varying heights.

My passion is for using reclaimed/ recycled materials for my work, so I set myself a brief to address this problem without purchasing anything extra to what I already had available, to complete the project.

1 Start with one pallet-worth of wood, 'de-nailed'. My pallet had been added to at some point by the addition of some pine (*Pinus spp.*) floorboard offcuts, which proved to be a help later on.

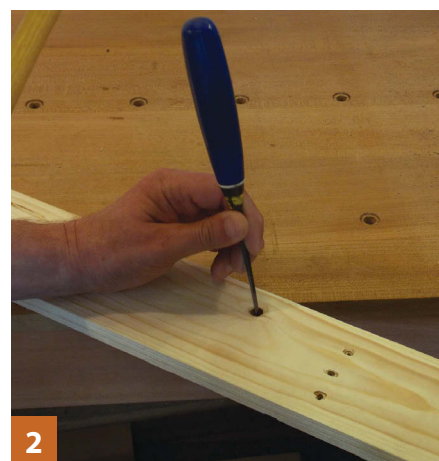
2 Clean the wood by a quick pass through the thicknesser, although a belt sanding would suffice. As you use the thicknesser, check each piece on every pass and gently tap out any loose knots.

3 Cut away the nail damaged areas and rip a quantity of timber to width for the tabletop.

4 Cut more pieces than required to enable a 'cherry picking', for the most suitable fit and later machining. As you will see, some of these extra pieces will be utilised later.



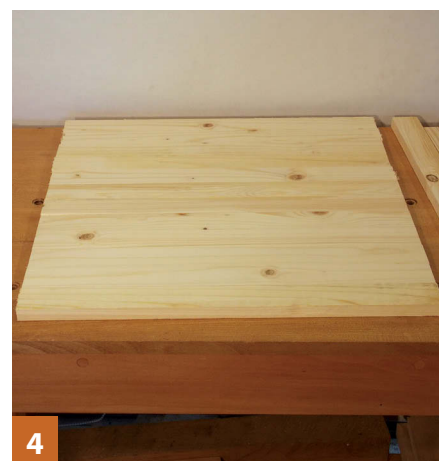
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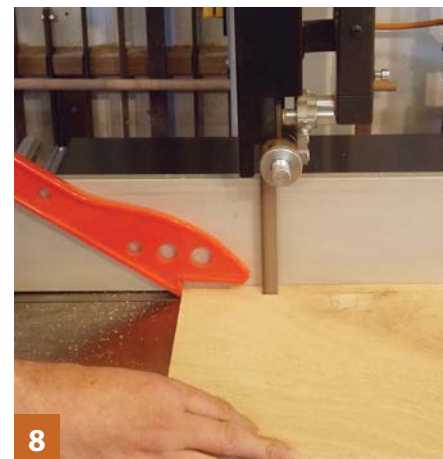
PHOTOGRAPHS BY NEIL LAWTON

5 Cut some longer pieces and mitre to frame the top. Cut the frame internally so it is 1mm larger all round. As the table is to be used indoors and out, a tight fit could lead to distortion of the top, if there is any movement in the timber.



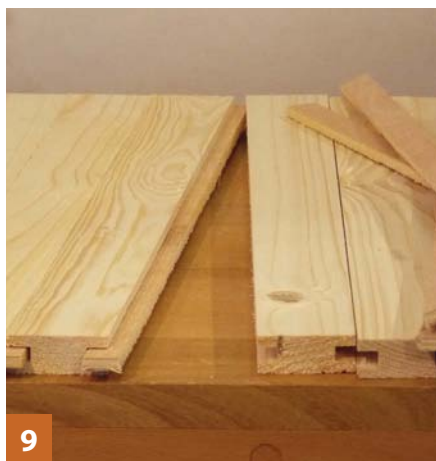
6 Construct the top using a loose tenon arrangement, again to allow for expansion or contraction of the timber. Set the router table to create a rebate in both sides of the internal pieces and the inner sides of the mitred frame.

7 After routing, it will become more evident how the tenons will help maintain a level surface.



8 Bandsaw the tenons from offcuts of 6mm ply, although rips from a suitable hardwood could be used.

9 Cut the tenons to a length to allow them to seat into the frame rebate on either side.



10 Next, dry clamp the top to check for square and fit. If any tenon is slightly overlong, it will interfere with the mitre joint. It is a lot easier to rectify any problem at this stage, rather than when the glue has been applied.

11 Glue a tenon into the two end frame rebates and the mitre joints only; this will help key the mitres together while allowing for movement across the top.

12 The floorboard pieces on my own pallet were utilised for the legs. They were not planed down, but would have holes filled and sanded clean later. Mark a centreline on each leg, mark a radius on the ends and measure out the drilling points.



1. A good quality metal detector is useful for checking for buried nails; this will avoid potential damage to blade metal. This is also useful for looking for lost nuts and bolts on the workshop floor.

2. Different pallet types will yield different sections of wood. It is useful to have a selection to choose from.

13 The next step is to drill a small pilot hole through each of the four legs, at the centre pivot point.

14 Set the depth stop, using a Forstner bit to create a recess to accommodate a nut and bolt, on one side of each leg.

15 Next, drill the pilot hole through to the required diameter and bolt the legs together.

16 With the bolts now cut flush, make a radius on the end of each leg using the disc sander. Having the legs bolted together makes it easier to ensure the legs end up an equal length.

17 Cut a batten to the length of the leg spacing and at a height to allow small expansion brackets to centre on the legs; these will form the hinge.

18 Here is the hinge assembly put together. You may notice a mixture of screw types due to using whatever was to hand. You can use whichever screws you have available, even second hand ones can be used.

19 Clamp a batten of equal length to the hinge to the front edge; this will maintain the correct spacing and cut cross members to start tying the mechanism together.

20 Recess the screw points using a small Forstner bit...



3. Surface dirt needs to be wirebrushed off any surfaces before machining, as it can quickly dull a cutting edge.

4. Select your pallets carefully. For this project it is best to avoid painted or obviously treated wood and research any stamped markings. Some pallets may have been treated with harmful preservatives and are therefore not suitable for reclamation work.

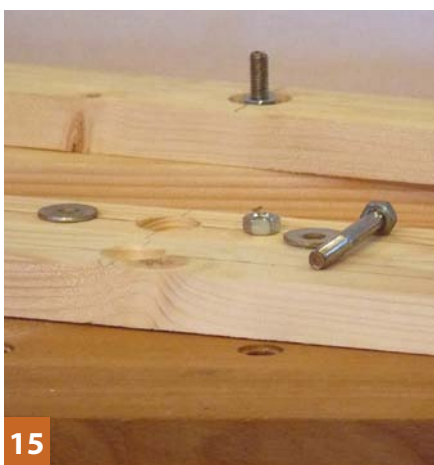
5. Alternating the grain orientation of the top pieces on assembly will help the surface remain flat, even if movement occurs.



13



14



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16



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19



20

21 ... and then cut plugs to match. A single screw so near the end grain is a possible weak point. The idea behind plugging the screw is to introduce glue into the end grain to reinforce it.

22 Then, secure a baton to the outer two legs using two straight brackets. The use of these allows the table to fold entirely flat and ensures that there is no interference with the leg height, regardless of the height position. Anything thicker would contact the bottom of the tabletop, which would lead to a sloping surface.

23 Glue and pin two pieces of wood to the table edges, these will act as runners for the legs. Secure batons to the underside of the top to achieve the three height positions.

24 Break down the table into its component parts, then sand and fill. I decided to leave it looking natural, so I finished with Danish oil. It could, however, be scorched or coloured with stain to suit. ■



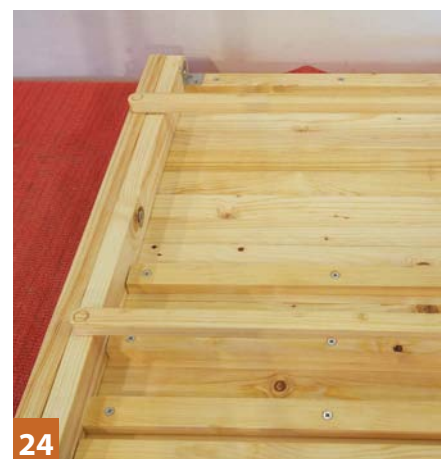
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23



24



25 The finished table at all three heights.



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Karl Smith

We delve deep into the world of sculptural woodworker **Karl Smith**, but that's not all he does...

Karl Smith's workshop sits in the heart of the Sussex countryside, where – with only a short walk – he can stand on Firle beacon with the North Downs on one side and the Channel on the other. Working in wood, steel, precious metals and alabaster, Karl creates furniture, interior objects, jewellery and dollhouse-themed cabinets. With his stone work described as 'art', his jewellery as 'craft' and wanting his functional benches to be a mixture of both, Karl tells us he feels most comfortably described as a 'designer-maker'. Each piece Karl makes is hand-crafted and unique, so you know your piece will always be one-of-a-kind.

Background

Originating in construction work and bricklaying – trained through

City & Guilds – Karl was often working around Georgian and Victorian structures and soon became interested in restoration work. Working with oak (*Quercus robur*) was simply a hobby at this time. Over time, his interest grew to furniture making and continuing to work with oak, Karl tells us he found it was a different medium he could play with, but still only as a relaxing hobby. It was when Karl got the opportunity to hire a bigger workshop space that he felt he could further explore the medium, after which he soon found his style. Woodworking with oak then turned into much more than a hobby.

It is a conscious choice of Karl's to only work with oak wood, telling us he simply grew up with "a strange affinity" to it. The oak used in Karl's work is locally sourced and the trees –

almost through a conservation process – died naturally. The trees used are known as the 'standing dead', these are the oaks that lost the fight for sunlight, but Karl makes sure to make good use of them. The root structures of the oaks are also available to Karl, automatically opening up the opportunity to make much more unusual pieces. By acquiring wood this way, there is only a small pocket of time each year when Karl can get hold of it, so planning ahead is key.

Inspiration

With his workshop near the small town of Lewes, East Sussex, Karl has wandered around the area many times and on these walks he finds his inspiration. Karl believes that we subconsciously absorb our surroundings and that people will



Oak bench, hand-crafted to represent weathering

PHOTOGRAPH BY KARL SMITH



Karl sanding one of his sculptures



Karl shines a light onto the wood, to check where the resin appears grey



Karl at his jewellery workbench polishing a ring



Karl has two benches to use: one at seating height and one at table height

be able to see in his work what has inspired him. In the beautiful countryside, on the south coast of England, Karl takes inspiration from weather formations, clouds and the changing landscapes. Surrounded by nature and countryside, the woodworker explains: "You can't really help but absorb all of that and I feel it comes out in my work."

On the other side of things, Karl tells us that he makes a conscious effort to not look at others' work and therefore not be influenced by their pieces. This way, when it comes to working on a piece Karl will work through instinct, which he hopes makes his work different. As Karl realises, he obviously can't help but see others' work while out and at craft fairs and he greatly admires the patience, dedication and passion that goes into their work.

Karl avoids inspiration from others' work, as he suggests people constantly pigeonhole and compare, which he wants to avoid with his work.

When asked about his mentors and those who helped him throughout his designer-maker career, Karl was quick to point out that none of them were involved in arts and crafts, primarily being members of his family. Karl's self-taught and finds he learns the most when he sits alone and has a go.

Work

When starting work on a piece Karl looks for the natural shapes already in the wood, for the flaws and glitches in stone. He thinks about where natural erosion may occur when the material is in the elements, where rain and water may wear away the material, first taking away the softer areas and

then chipping at the harder. This will usually make the overall shape of the piece; however, the shapes Karl can see in the wood and stone can change from day-to-day.

Karl will work around the potential shapes he can immediately see: "The worst thing I can have in front of me is a square blank." Should this happen, however, using a torch light, Karl can further inspect the piece and see where the light hits vulnerable and thinner areas. These will be the areas to chip away at. By working with the 'blank canvas' and natural shapes, Karl hopes that the viewer will be able to see his inspiration and the natural, flowing shapes. Although choosing to work in a fluid manner, Karl can appreciate figurative work, but he certainly prefers the free-flowing and natural shapes and curves.



PHOTOGRAPH BY KARL SMITH

A finely worked alabaster sculpture, so thin that it's translucent

When working to make a piece of furniture, Karl enjoys the process of collaboration with clients to create individual heirloom pieces. Again, with little influence from other furniture makers, he can hope to make a piece as individual as possible.

Workshop

To work in a various number of forms means an organised workshop is a must! Karl has split his workshop into different sections, for the different areas of his work. He has done this mainly due to the dust problem and he tells us he can't afford to have all types of dust flying around the place, from stone dust to wood dust. A main feature in the large workspace is the steelwork installed around the ceiling, which he had put in especially. This frame allows him to manoeuvre the large cuts of wood around easily. Once moved, Karl uses two separate trollies to make either tables or seats/benches on. These trollies are positioned at the perfect sitting height and the perfect table height, allowing him to measure the blanks easily.

Dotted all around his workshop hang Karl's various woodworking, stone carving and jewellery making tools. We ask which he couldn't do without, to which he quickly replied: "I need all of them!" This is understandable, given all of the different types of work he does.

In one corner of the workshop Karl has a small nook, where he works on

his jewellery pieces. Within this corner sits an old-fashioned log burner, a fan sat on top, spreading the heat out into the workshop. Essential on a cold day!

Promotion

Easily accessible online, Karl is currently working on updating his website – www.carvedoak.co.uk. It is his aim to separate 'Karl Smith Artist', from 'Carved Oak', the woodworking side of his business. Within the artist section would be his stonework and jewellery. He is also learning about using Twitter, Instagram and using other social media platforms to promote his business. These promotional opportunities would certainly reach a wider audience.

In terms of getting his work physically 'out there', Karl has one or two pieces on display in London and he participates in the Lewes Artwave festival once a year, reaching out to the local customers. Karl realises he is now at a stage when he must learn how to better promote his work.

Projects

When it comes to commissioned projects, this designer-maker is no stranger to working with clients. He tries to spend as much time as possible with the customer to find out their likes and more importantly, their dislikes. Then, upon designing the basics of the piece, he will find a way to incorporate their likes.



Karl using resin and aluminium powder to enhance natural features in the wood



Karl working on his jewellery



Part of the steel frame installed in the workshop



PHOTOGRAPH BY KARL SMITH

The bench for St. Dunstan's

Couple's handrail

Karl tells us of a handrail he made for a couple's 30th-anniversary. The rail was split into three sections to represent the couple through design. The first section of rail is to represent the woman, with sweet peas and garden leaf design; the middle section was designed to represent the couple, with their wedding rings joined into the wood as a permanent fixture and the third section to represent the man, a geologist. Clearly, Karl spends time developing ideas and designs to really ensure his commissioned pieces are personal. The resulting handrail is one-of-a-kind and the story behind it makes it a very special and touching feature in the home.

St. Dunstan's bench

Currently, Karl is creating a bench for

St. Dunstan's – now known as Blind Veterans UK. Another commission, Karl must be aware of both the people paying for the bench and the intended users of the bench, for whom he will highlight the importance of 'feel' in a tactile and fluid design, hopefully appealing to the blind users' version of beautiful. The bench will be made using oak, resin and aluminium powder. Conscious of the bench's users, Karl has put a lot of thought into the making of the piece. As the bench wears in the weather, the wood will become coarse and rough up, but the resin and aluminium powder, on the other hand, will stay smooth and create a clear divide in texture. Not only will the texture change, but also the heat of the bench! The wood will stay at a constant, but the aluminium and resin will heat in the sun and

grow cold in the winter. While making the bench, Karl uses artificial light to catch resin shine. If it is too grey, he will polish it up until it is metallic.

The bench acts as a memorial piece to the late CEO of St. Dunstan's, who Karl has previously made handrails for. Having loved the handrails so much, a second piece by him, in the grounds of St. Dunstan's makes perfect sense to pay tribute.

Surbiton High School

Other past projects of Karl's include a bench for Surbiton High School, to celebrate the Queen's Jubilee. Paying homage to the River Thames – which runs alongside the town of Surbiton – Karl made sure the bench was shaped as such, in smooth curves and waves. He didn't, however, want the reason for the new bench to be obvious to



PHOTOGRAPH BY KARL SMITH



PHOTOGRAPH BY KARL SMITH

The couple's handrail and the rings detail in the middle section of the handrail

the students, hoping they'd figure out for themselves why it was in the school grounds. This project came about after he was approached by the school's own interior designer and he comments that the bench was well received by all.

'Wishing Tree'

Karl has also made a 'Wishing Tree' to support the charity Water Aid. Once a donation has been made to the given charity, a piece of thread can be tied around the tree and a wish made. The tree is designed to be lit from above, to show off the cleverly hidden pattern, which is inside the trunk. The carved interior of the trunk can then be clearly seen through carefully placed holes, revealing Karl's signature dragonfly image.

Jewellery

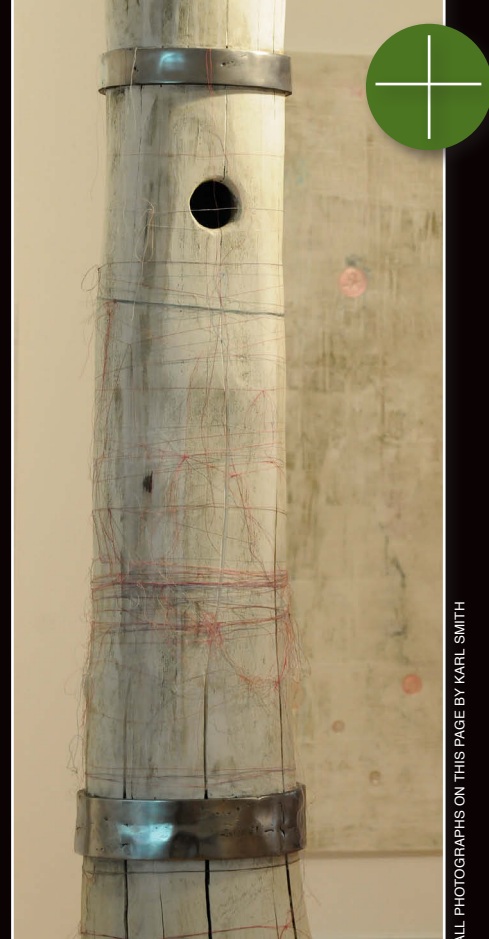
One commissioned project Karl undertook required him to invest in a microscope. It was not a woodwork project, though, but a jewellery one. He was handed 24 diamonds to

incorporate into the necklace planned, each diamond an individual shape and each needing its own setting. With the diamonds only measuring 1mm and faceted down to nothing, the settings had to be only 2-3mm – clearly a microscope was needed! The investment was clearly worthwhile, resulting in a beautiful necklace. With the rings that he makes, Karl tells us that he doesn't get them hallmarked but clients are free to get them with Lewes stamps if they so wish.

Cabinets

One last craftsman's venture Karl has taken is into making functional cabinets, using a dolls' house theme. Karl creates a dolls' house exterior on old cabinets, which results in unusual and interesting pieces, as you can see here. After making one for local artist Jessica Zoob, Karl has included her works inside his cabinets, a great collaborative idea.

We certainly look forward to seeing what else Karl works on – his pieces are only getting more exciting! ■



The 'Wishing Tree'

ALL PHOTOGRAPHS ON THIS PAGE BY KARL SMITH



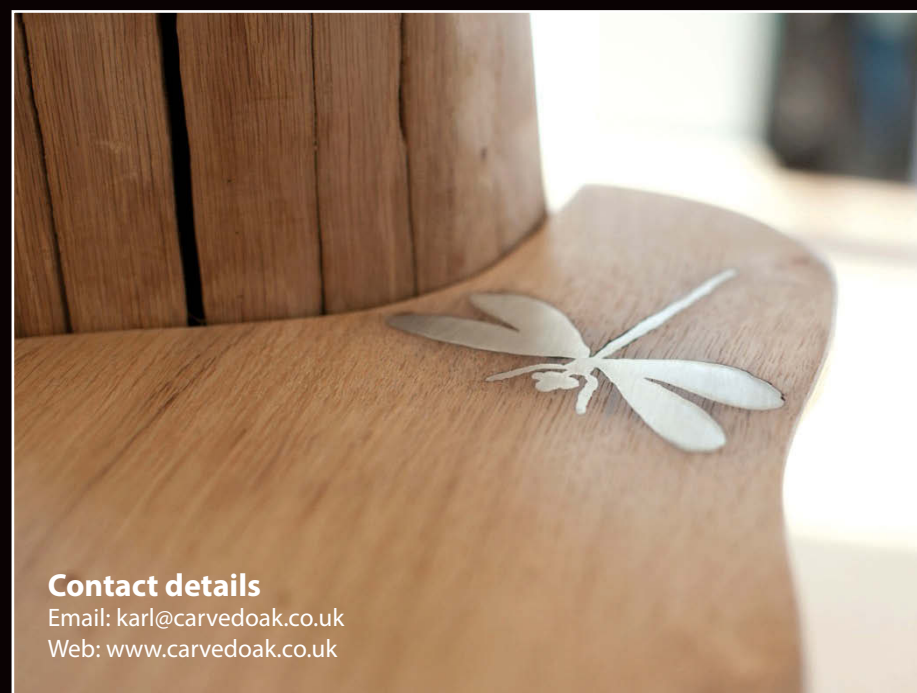
One of Karl's dolls' houses including a small homage to Banksy



Necklace with 24 individually crafted settings for the diamonds



Texture silver ring with diamond set in 19ct gold



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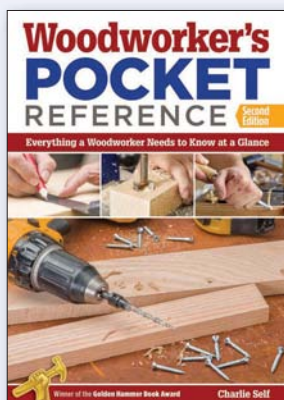
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Book reviews

We review three books for you to enjoy



Woodworker's Pocket Reference, Second Edition
by Charlie Self

The Woodworker's Pocket Reference, although small in size, is full of facts, figures, tips and hints. A suitable size to fit in your workshop apron, the contents of the guide are suitable for both beginners and experienced woodworkers to use in their workshop. The book focuses on questions you may have over wood use, fasteners, joints, shop maths, finishing, hand tools, power tools, shop set up, sharpening, safety and more. As it states on the cover, it has 'everything a woodworker needs to know at a glance'.

The chapters and page edges are colour-coded, so if you know what chapter/subject you're looking for, it'll be incredibly easy to find. Tables, charts and drawings illustrate Charlie's points perfectly, although some may find the photographs a little small; the text explains everything clearly so there'll be no feeling lost while reading.

Within the first chapter, the author looks at the characteristics of common wood types. He explains veneer matching and goes into detail of his mentioned woods, such as their 'weight/strength', 'workability', 'movement' and 'uses'. This information makes for a great comparison guide between possible woods to use for a project.

Overall, it certainly is a great book to use for quick and useful points while in your workshop, with its easy-to-find information and diagrams.

Details

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Easy Woodcarving
by Cyndi Joslyn

Cyndi Joslyn's *Easy Woodcarving* is great for those who enjoy crafts such as sewing and painting, but who want to try something new. The guide starts at the very beginning of taking up the craft, by looking

at 'setting up your workspace' and even 'how to make a carving apron' – which uses the craft of sewing. Cyndi then goes through the tasks of choosing your first tools, safety equipment, making basic cuts and focuses on the basic carving shapes, such as round and box shapes, low relief carving and chip carving. The final chapter on Projects – following 'Getting started', 'Basic techniques' and 'Skill-building exercises' – has a good variety of pieces to carve, including an Aztec angel, snowman, shell paperweight, a 'welcome' sign and more. All of these projects give you a chance to put into practice the skills you learnt in the previous chapters.

The photographs in the book are clear and great quality, giving all-round views of how your final pieces should look. At the end of each project, Cyndi gives clear instructions on painting the pieces, leaving you with a small number of original folk art projects. They are certainly projects to try, that can be developed as your carving skills grow.

Details

ISBN: 9781565232884

Price: £9.99 (plus P&P)

Web: www.gmcpcubs.com



Taunton's Complete Illustrated Guide to Jigs & Fixtures
by Sandor Nagyszalanczy

Taunton has also released their *Complete Illustrated Guide to Jigs & Fixtures* by Sandor Nagyszalanczy, with a similar clear, simple and easy-

to-read layout as is in Thomas Lie-Nielsen's sharpening book. This particular Taunton guide has over 850 photographs and drawings to illustrate the step-by-step instructions and text, to make a wide range of workshop jigs and fixture designs. The guide is neatly organised for 'quick access', with some text sectioned off into brightly coloured boxes for quick reference.

The guide is in four parts, which are further broken down into smaller subject areas. The four parts are: 'Design and materials', 'Woodworking jigs', 'Woodworking fixtures' and 'Safety and dust control'. These parts then include chapters such as: 'function and design', 'tools and techniques', 'fences and guides', 'clamping and alignment', 'safety devices' and much more! There is so much to be covered under the term 'jigs and fixtures' and Sandor does a great job at addressing them, from making fences, sliding jigs and portable power tool jigs to guards, hold downs, stops and indexes.

Details

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Joint solutions

Mitre joints

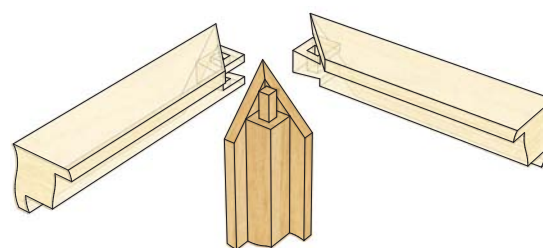
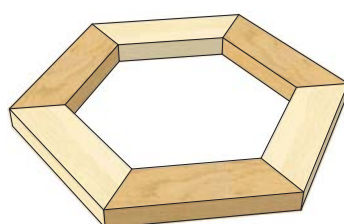
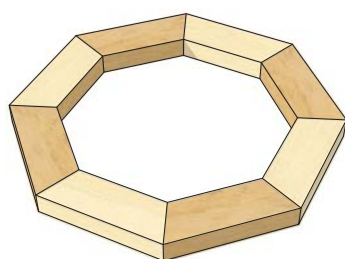
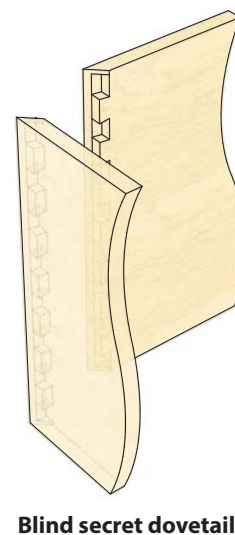
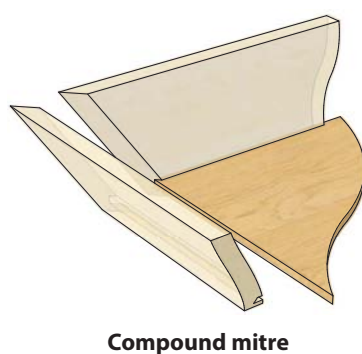
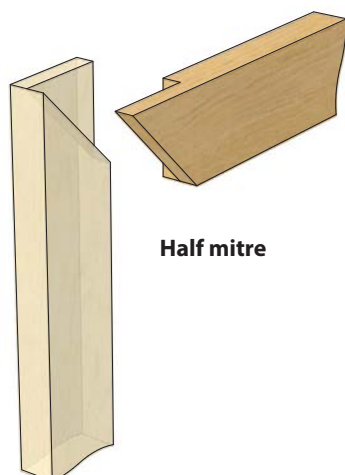
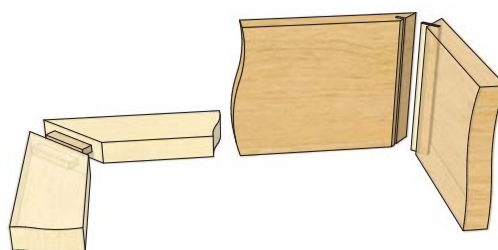
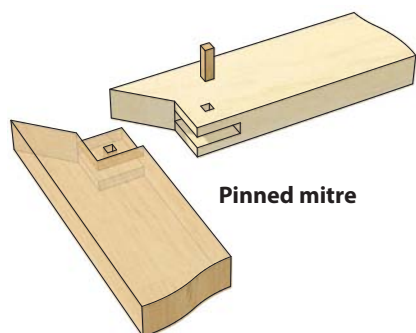
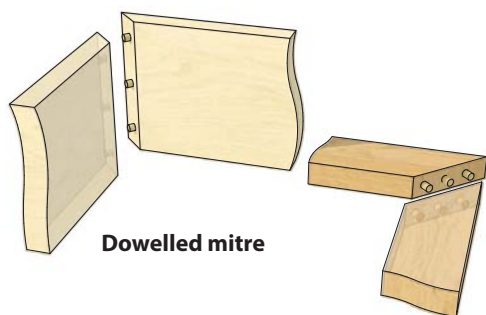
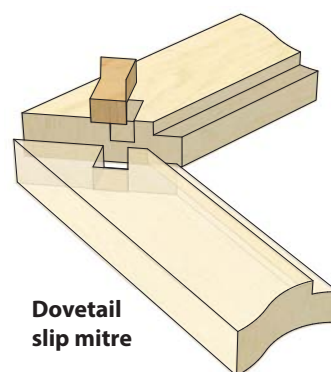
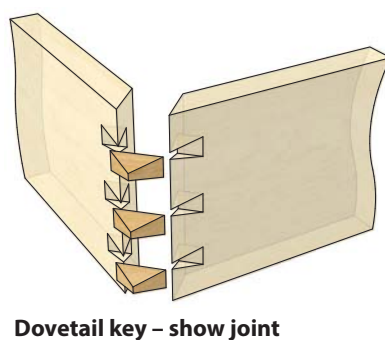
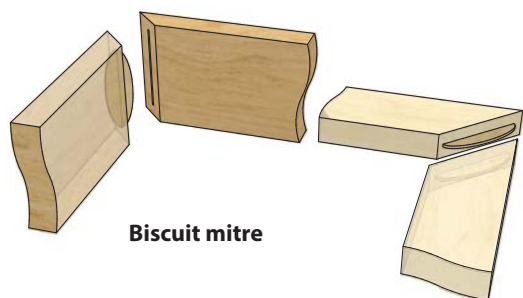
When it comes to knowing all the angles, **the Editor** will show you how to make a clean job of mitre joints



Mitre joints are basically chosen for looks rather than strength. Somehow we associate a clean, tidy mitre joint with visual purity not perhaps really dealing with the issue of making really strong joints where almost any other method would do a better job. Even the half lap with its large gluing faces is superior where a plain mitre joint has two faces of what is effectively end grain, even though it is cut on the slant. We know that end grain doesn't bond together well, so we have to help it along in some way. Even clamping mitre joints presents problems and yet we still love them for their looks.

PHOTOGRAPHS BY GWC/ANTHONY BAILEY

TYPES OF MITRE JOINT



MAKING GOOD MITRE JOINTS



Mitre box

Mitre joints need careful clamping to close the joints properly when gluing up. The angles of the components make this quite difficult even when the joints are accurately cut. Worse still, there are usually four joints to close to create a frame so the first thing is to create four sets of joints, which are precise when the whole thing is put together. All types of mitre saw can also do perpendicular cuts and some can also cut at intermediate angles too.

Mitre box

This rather basic wooden or plastic U-shaped box is only good enough for rough carpentry; it can't be relied on to give smooth cuts at exact angles unless you make your own and the saw that will be used makes the actual slots so there is no free play in the saw kerfs.

Japanese mitre saw

There are several different sizes of these natty mitre jigs, which feature pull saws. The saws are very



Japanese mitre saw



Mitre saw

accurately made as are the jigs. For smaller mouldings, they give very good results and are easy to use. They can cut left and right mitres or make perpendicular cuts.

Mitre saw

These are based on the old Nobex design of a frame on a stand, which has a fence for cutting mitres. These work quite well but the cuts can sometimes deviate a little so care is needed for an exact result. These hand mitre saws have gone out of fashion now there are so many powered mitre saws on the market.

Mitre cutter

There are both small hand-held cutters and large mitring machines on stands, both of which have blades that cut from sheer pressure. Both types work really well within their designed capacities and the large expensive versions are intended for things like picture frame assembly. Neither size of cutter causes any significant fibre crushing so the results are very neat.



Mitre cutter

Chopsaw and compound mitre saw

There are plenty of power mitre saws on the market, which have lots of uses from cutting timber to length to making mitre cuts. As usual, you get what you pay for – the more expensive models do a better job and have a larger capacity. Unfortunately, it can be time consuming adjusting the fence to get exact 45° cuts, which you need if you want four meeting frame joints.



Chopsaw and compound mitre saw

CLAMPING METHODS

This is often a cast-iron device, which will hold two components together at a time. Unless you have a set of them, frame assembly is a drawn-out process and subsequent final assembly may not result in properly closed joints. There are more recent alternatives – ideally you need a set of four.

Spring clamp

This crudely simple gadget actually works really well. It has pointed tips that dig into the wood slightly but it does grip well. You need to ensure the glue is exuded from the joint properly or the components may slip around while springing the clamp into place.

Cam clamp

This can be a homemade device using cams mounted flat or vertically so they hold the components in place until the glue has set. It is a good idea to wax the jig so your frame cannot get stuck to it.

Band clamp

A band clamp makes eminent sense



The spring clamp

because it applies pressure around the outside of all the joints at the same time. You can use luggage straps and protective cardboard at the corners when applying the pressure. There are proper band clamps on the market which can do a better job because the protective corners not only hold the frame square but are also radiused on the outside, allowing the band to slide easily when tensioning. This kind of clamp can be used to hold any kind of joint together. The Lamello version is designed for carcass assembly rather than frames.



The cam clamp



The band clamp

MITRE TRICKS



Shooting a 45° mitre

Rather than showing you how to do the obvious and cut mitres, it is useful to know how to get precise meeting surfaces, especially if you want to put a whole frame together so all the joints close properly.

BY HAND

Mitre shooting board

I made a standard shooting board a while ago and also a removable mitre block. Combined with a jack plane



Correcting the angle with a slip of veneer

and a really sharp blade with straight, uncambered edge it is possible to take razor-like shavings off when trimming a sawn edge at 45°. Even so, however accurate this shooting method is, you may not find all four corner joints meeting perfectly.

The way round this is to cheat by putting a slip of veneer behind the component as it sits on the shooting board. This needs to be at one end or the other, depending on whether

you are looking for a flatter or more acute angle. Do one half of the joint and check the frame to see if the fit has improved. If not, do the other of the same joint. You may then need to repeat with the other mitre joints so just a fraction is taken away, but enough to adjust the meeting angles for a good fit. The tighter they are the better the glue joint, as glue relies on the thinnest, most complete contact area possible.



Making a 45° bevel cut

BY MACHINE

A compound mitre saw will make quick work of mitre cutting. The downside is the cuts can be rough, depending on the condition of the blade and the number of teeth. More, finer teeth will give a better finish. Also, the blade needs to attack the work in the right direction if it is a moulding. If the moulded area is facing the fence or underneath, then breakout will occur.



This sliding mitre jig works well on the table saw

If the meeting angles are not correct, then you may need to reset the position of the fence until the blade is cutting exactly perpendicular first. The instruction manual should show you how to do this. Some test cuts will verify if you have achieved this. A word of warning: cheaper machines don't always have absolutely flat fence faces, which can make accurate cutting problematic anyway.

The method for adjusting mitre



'Trapping' the biscuit jointer when slotting a bevel cut



The fence on the compound mitre saw can be adjusted to give a 90° cut



Adjusting a compound saw fence

cut angles finely on the mitre saw is the same trick as the hand shooting board. Use a piece of veneer or a slip of wood stuck to the fence with double-sided tape until you get a true 45° meeting angle. You can use a reliable set square to check this is correct.

"This jig will allow you to cut both left- and right-hand mitres safely"

If you own a table saw, it is possible to make a mitre sled, such as the one shown here. Getting the angles exact is obviously very important and it needs to have a fillet of wood underneath that will run smoothly in the mitre gauge slot. This jig will allow you to cut both left- and right-hand mitres safely.

Biscuit jointers are ideal for slotting both flat and edge mitre joints. Most jointers will allow you to do edge mitres held on to the joint face by a bevel at the bottom of the fence or having a fence that flips down far enough to trap the mitred board end. Just plunge slowly and it will work perfectly.

Next time, we look at the functional and visually pleasing finger joint. ■

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Oak table & stool

Louise Biggs makes a table and stool in oak to accompany her chairs

PHOTOGRAPH BY MEGAN ROSE PHOTOGRAPHY



My clients provided the size of the table, as they had limited space in their kitchen. Their other requirement was that the legs be removable as they had to get the table down steep steps and through a narrow hallway to reach the kitchen. Later, they asked if I would make a stool to complement the table and chairs – see issue 98 – that would not take up too much room, but one that they could sit or stand on as required. As with the chairs, be sure to put the frames together as often as necessary to make sure everything is fitting well. All the furniture is made of oak (*Quercus robur*) and details match those on the chairs.

The table

1 Commence by making the top from six equal sections of timber.

Leave the outer two slightly wider and all six boards longer than required so that the top can be cut back to the finished size. Set the boards out and alternate the grain direction on the ends of the boards; this will help to keep the top flat. Shoot each edge of the boards to form a straight square joint to the next board.

2 The next step is to mark the order of the boards and the face sides. Square two lines across the six boards

marking the length of the top, then two more 30mm inside the first to mark the stop lines for the grooves. Cut a groove both sides of the joint to form a loose tongue joint.

3 Glue up the joints and loosely clamp with sash clamps across the width, alternating above and below the top. Keep the clamps off the oak; this will avoid getting black stains when wiping off the excess glue. Preferably, use glue with a



PHOTOGRAPHS BY LOUISE BIGGS, UNLESS OTHERWISE STATED

Tools required

- Tablesaw
- Planer/thicknesser
- Bandsaw
- Squares and 45 square
- Mortise gauge
- Radial arm saw or hand/mitre saw if cutting by hand
- Tenon saw
- Planes – various sizes to suit
- Mortiser or mortise chisels, if cutting by hand
- Straight and 45° chamfered router cutters
- Bevel-edged chisels
- Drill and/or pillar drill and drill bits
- Sash clamps and 'G' clamps
- Cabinet scrapers
- Abrasives and sanding block
- PPE equipment



1



2



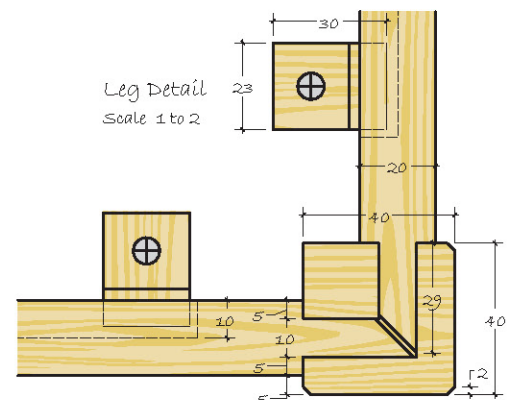
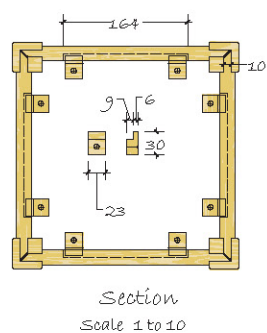
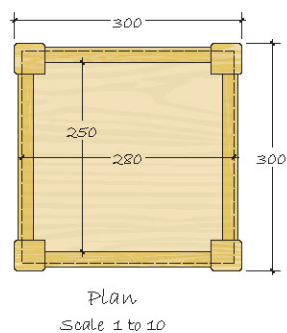
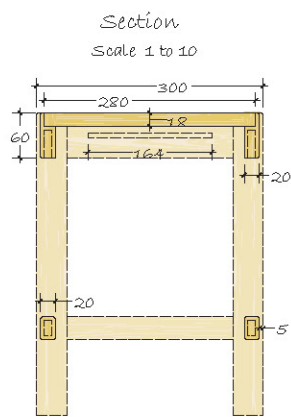
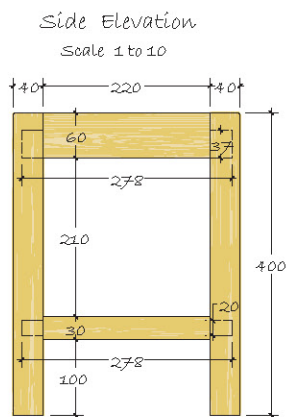
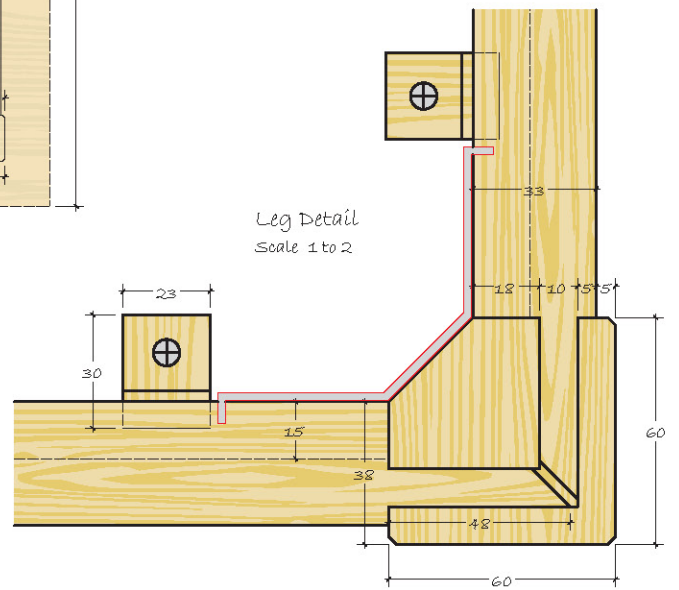
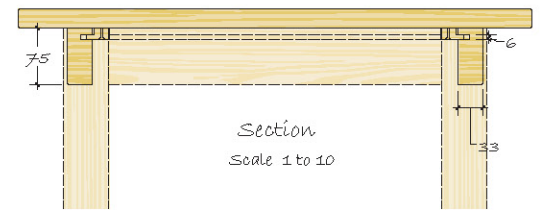
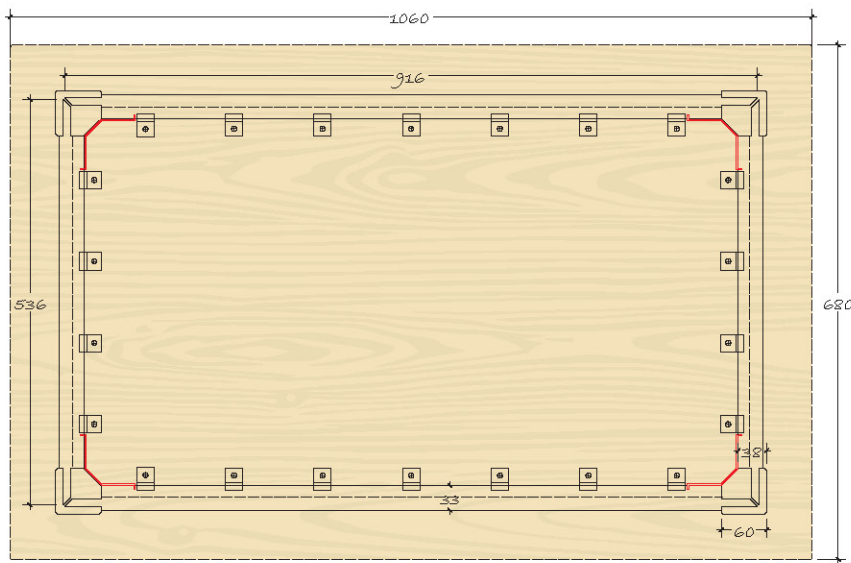
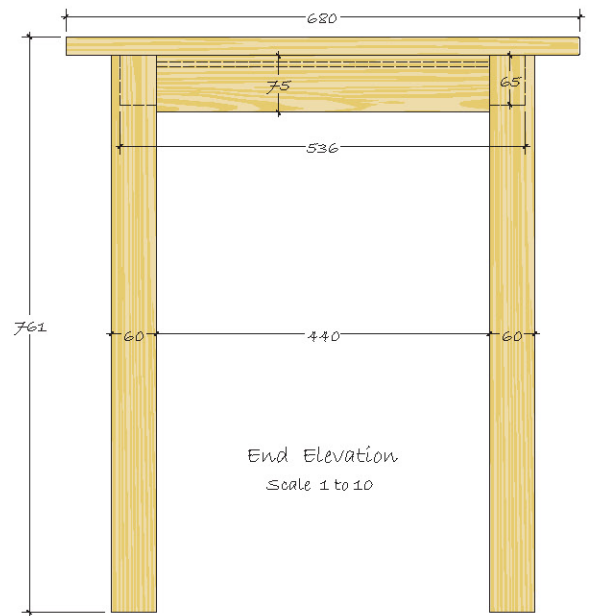
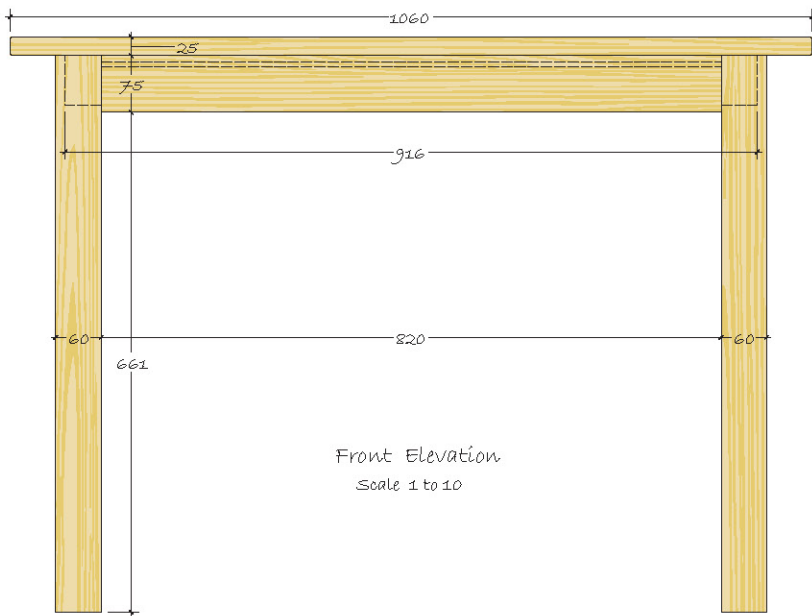
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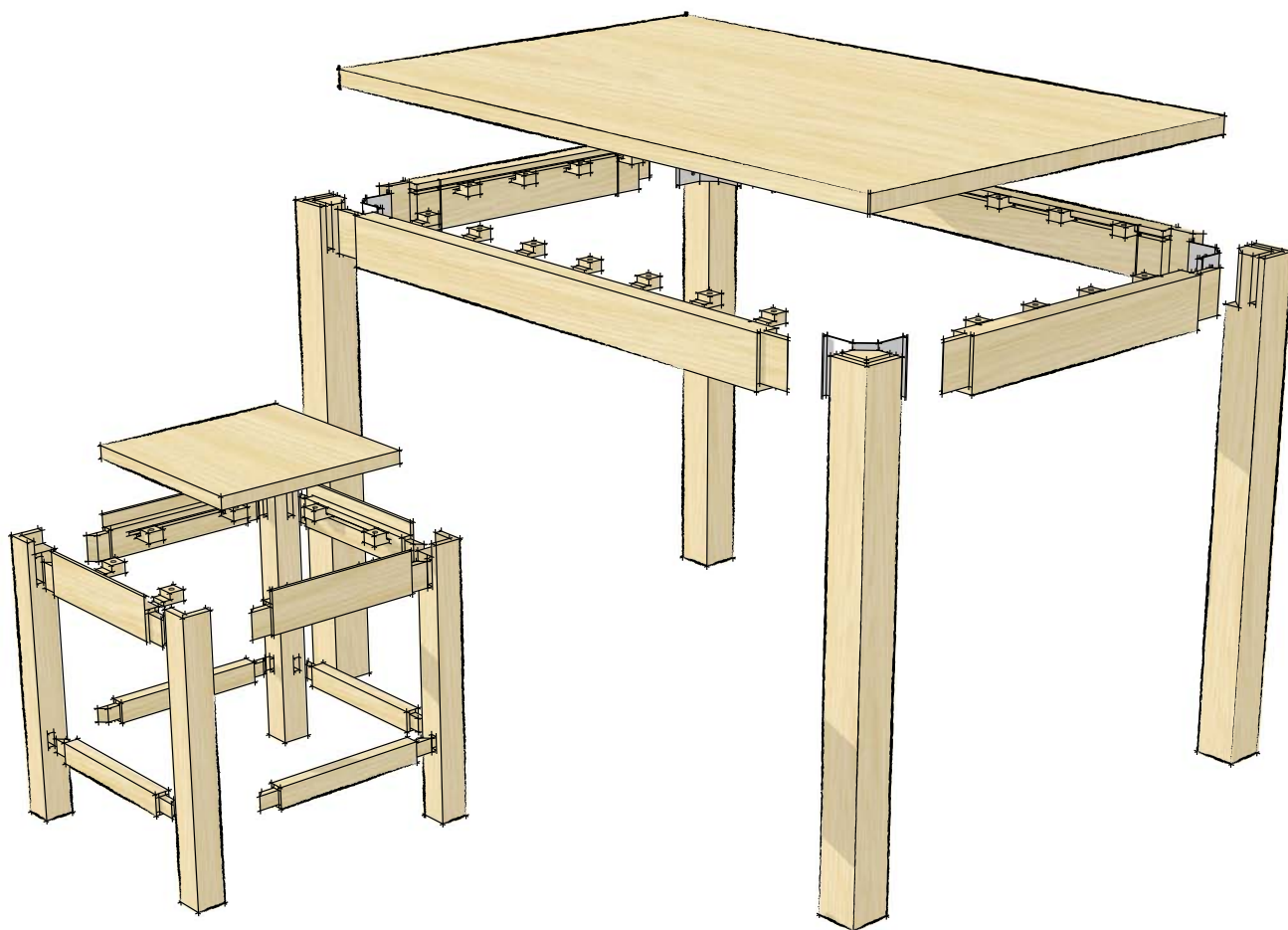
longer 'open' time – 30-40 minutes – to give time for any adjustments.

4 To aid clamping the top flat, prepare some stout timbers until straight and flat and wax two corresponding faces. Place these one above and one below the top and clamp with 'G' clamps – usually each end and one in the centre. Use more if required. Tighten all sash and 'G' clamps to close the joints and straighten the top.



4



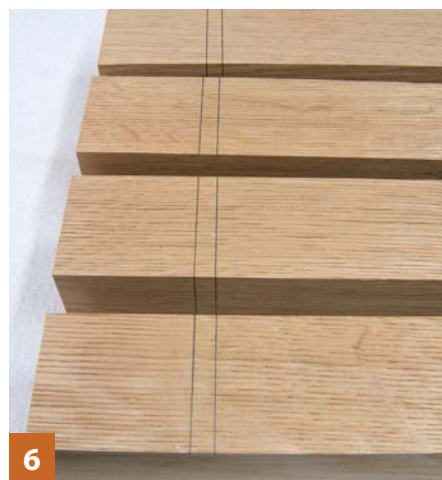


5 Cut the top to the finished size, scrape with a cabinet scraper and work through the abrasive grits down to 240. Then, cut the 2mm chamfer along all the edges.



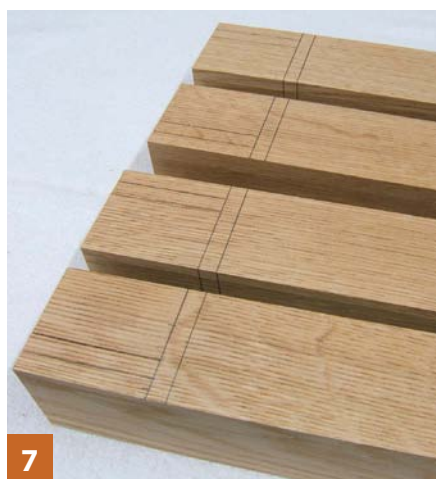
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6 Prepare the timber for the legs and rails, mark each leg with face marks and then mark the width of the rails on the legs, keeping the rails flush at the top of the legs. Mark a second line 10mm back; this will create a shoulder at the bottom of the rail. The mortise will be open at the top of the leg, so cut the legs to the finished size.



6

7 Using a mortise gauge, set the width of the mortise to 10mm, then mark the position of the mortises. The outer cheek of the mortises will be 10mm back from the faces of the legs; this allows for the rails being set back 5mm from the face of each leg.



7

8 Set the mortise depth to 48mm, so that the two mortises on each leg do not join. Cut the mortises, either with a mortiser or by hand with mortise chisels. Take care when cutting through the top of the leg.



8

9 The legs should now look something like this. Because the legs have to be detachable, cutting the mortise through the top of the leg will allow each leg to be pushed down over the tenons, which will keep the legs from twisting out of place and means they are not solely relying on the metal corner brace.

10 You can then mark the shoulder lengths of the tenons on the rails and cut the outer cheek of the tenon on the router table or by hand with a saw and chisels, if you prefer. Allowing for the rail being setback from the face of the leg by 5mm, the outer cheek should be 5mm from the face of the rail.

11 Using two test pieces – offcuts to the same size as the rails – set up the router to cut the inner cheek of the tenon. You need to ensure that the mortises in the legs are a snug fit to the tenons when the legs are dropped down over the rails.

12 When the fit of the tenons to the mortises is correct, cut the inner cheek of the tenon on the router or by hand. Cut the shoulders on the bottom edge of the tenons either using the bandsaw or a hand saw and trim by hand with a chisel.

13 The rails should now look like this on both ends and the distance between the shoulder lines should be correct. For this table, the long rails should measure 820mm and the short rails 440mm. At this stage, you can recut the tenons to adjust the shoulder lines if necessary.

14 Using a chamfer cutter in a router or by hand with a plane, form a 2mm chamfer on all edges of the legs and the bottom edges of the rails. If done correctly, this should match the chamfer you cut on the edges of the top.

15 You now need to clamp the table frame together with sash clamps to make sure that everything fits together correctly, is the right size and, most importantly, to ensure that everything is square. The frame, measuring off the legs, should now be 120mm smaller than the top in both directions. Now is the time to make adjustments, if required.



9



10



11



12



13



14



15

16 On the legs, mark the position of the inside edge of the rails and the height of the metal corner braces, which will fit flush to the top of the legs. The inner top corners of the legs need to be chamfered, so mark a line at 45° to join the lines marking the rail positions and saw down the lines.

17 Next, trim the chamfered top corners on the legs with a chisel until they meet the inner sides of each rail. You then need to trim the step at the top of the legs until the corner brace fits across the inner corner of each leg.

18 Clamp the table frame together again, as before, and check that it is square. Make sure the clamps are secure and turn the table frame over. From the top edge of the rails, at each corner, hold the corner brace in position and mark the inner edge of the return ends of the metal brace.

19 Rout out the grooves using a 2mm straight cutter by clamping a piece of wood square to the rail to act as a fence, chamfer the inside corner with a chisel to allow for the bend in the plate, then screw the plates into position across each corner. The plates will now hold the rails together at the same time as keeping the frame square.

20 Slide the legs into position and mark the holes for the retaining screws. I decided to use a threaded insert in the legs so that the fixing screws did not wear in the holes if repeatedly removed and inserted. Drill the holes to the required size and fit the threaded inserts.

21 Each corner is now securely held by the tenons, the corner brace and pulled in tight with the machine screws.

22 Before finally fitting the table frame together, cut a groove with a 6mm cutter, 9mm down from the top edge on the inside face of all the rails. The grooves will accept the wood buttons that will hold the top to the frame, while allowing for any movement to occur. Clean up all the rails and legs with a cabinet scraper and work through the abrasive grits down to 240.



23 To make the wood buttons, cut a length of oak and plane it to 110mm wide, 15mm thick and then across the end grain rout out a rebate 9mm deep $\times$ 15mm. Check the fit of the button in the groove on the rail, adjust if necessary for a snug fit and cut to length. Repeat until you have the required number of rebated strips.

24 Cut through each strip to create the individual buttons 23mm wide. Clean up all the edges.

25 Mark one button for the screw position and set up a small jig that can be clamped to a pillar drill table. Drill the required size hole for your screws and countersink.

26 Position the framework on the tabletop so that the legs are 60mm from the edge of the top and clamp the frame and top together.

27 Position the buttons so they are equally spaced, drill a pilot hole to the required size and screw the buttons in position. They will now pull the frame tight to the top.

The stool

28 Prepare the material for the stool and cut the legs to length. Mark the width of the top rails, keeping the tops of the rails flush with the tops of the legs and mark the shoulder lines for the mortises 23mm for the top of the rail – to allow for the rebated top – and flush at the bottom of the rail. From the position of the top rail mark the position of the stretchers' rails, leaving a 5mm shoulder top and bottom.

29 Mark one leg with a mortise gauge so that the tenon is 10mm-thick and the outer cheek of the tenon is 10mm back from the face of the leg, allowing for the 5mm setback of the rail. Cut the mortises on a mortiser or with a mortise chisel.

30 Cut the tenons as you did for the table. Set the router and cut the outer cheek 5mm back from the face of the rail. With a test piece, cut the inner cheek of the tenon and check the fit in the mortise. When the fit is right, cut all of the tenons on the rails and stretcher rails. Cut the shoulder on the tenons by hand or with a bandsaw and trim with a chisel.



23



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31 Cut the 2mm chamfer around all the edges of the rails and legs, which again should match the chamfer on the table. Next, cut a rebate 18mm deep and 15mm wide on the inner top edge of the top rails; this will allow for the stool top. Once you have cut the rebate, chamfer that inner top edge as before. Cut a 6mm groove 9mm down from the rebate; this will take the wooden buttons that will secure the top.



31

32 Clamp the stool frame up to check that everything fits together properly and then clean up all the legs and rails, firstly with a cabinet scraper and then working through the abrasive grits to 240. Then, glue and clamp two end frames with sash clamps and when dry, glue up the remainder of the frame.



32

33 When the frame is dry, rout or cut out with a chisel the top inner corner of the legs to match the rebate on the rails. Trim into the corners with a chisel and chamfer the inner top edge to match the rail.



33

34 Prepare the top in the same way you did the tabletop – unless you have a wide enough piece of timber. Once glued, cut to fit and chamfer around the top edge, then clean up as before with a cabinet scraper and abrasives. Prepare the buttons you will require for securing the top, then fit in position.



34

35 Both the stool and the table require a final clean up before being finished with a clear PU lacquer, but they can be oiled or given any suitable coating.

PHOTOGRAPH BY MEGAN ROSE PHOTOGRAPHY



35

36 There are stages in the making where the setups for routing, cutting, making the buttons, etc. are the same for both pieces. Both time and energy can be saved by cutting and shaping the components for both pieces at the same time. ■

"There are stages in the making where the set ups for routing, cutting, making the buttons, etc. are the same for both pieces"



1. This project is for a table to seat four people, but it is easy enough to adapt the design to a table that seats six people. This will require you to look at the overall dimensions before you start.

36



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Precisa 4.0 P-1	Professional	Inc 1.4m STC + TLE (ditto)	3.5 / 5.2	87 mm x 800 mm	£1775.00	£2130.00
Precisa 4.0 P-2	Professional	Inc 1.4m STC + TWE + TLE (ditto)	3.5 / 5.2	87 mm x 800 mm	£1980.00	£2376.00
Precisa 6.0 P-1	Professional	Inc 2m STC + TLE (ditto)	4.0 / 6.5	110 mm x 1400 mm	£2416.67	£2900.00
Precisa 6.0 P-2	Professional	Inc 2m STC + TWE + TLE (ditto)	4.0 / 6.5	110 mm x 1400 mm	£2590.00	£3108.00
Precisa 6.0 VR P-1	Professional	Inc 2m STC + TWE + TLE + scorer (ditto)	4.0 / 6.5 + HP scorer	110 mm x 1400 mm	£2890.00	£3468.00

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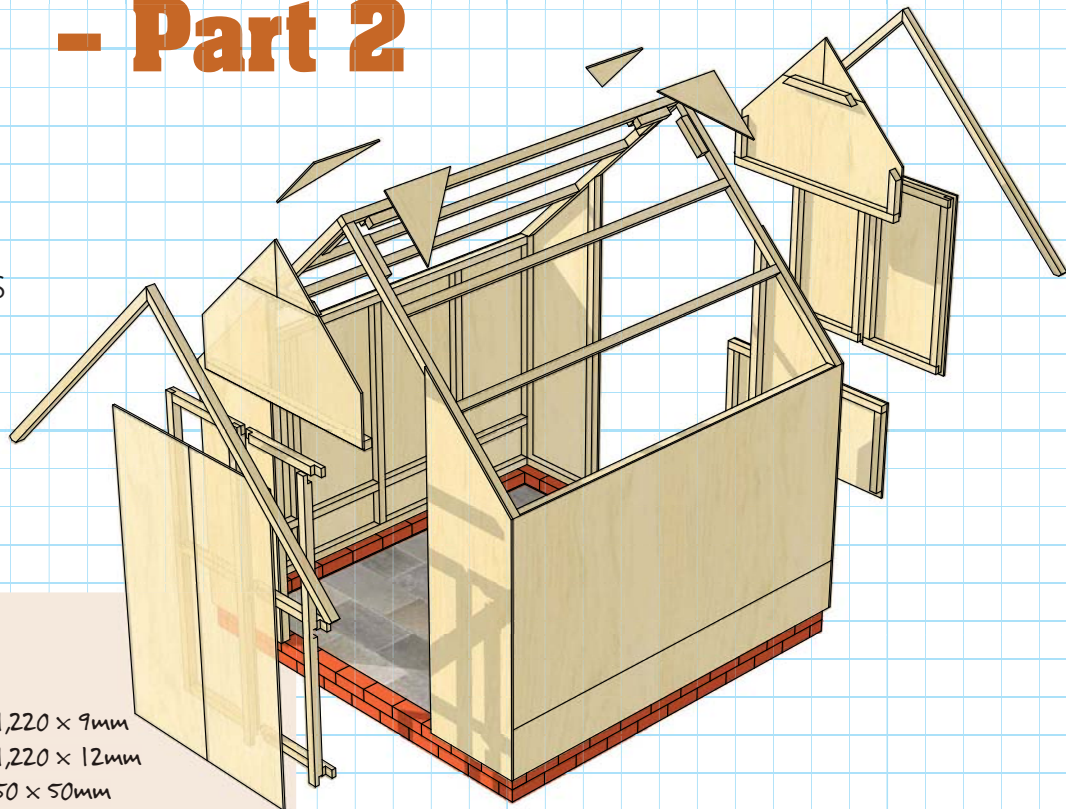
PLANS

4 YOU

Shed workshop

- Part 2

Simon Rodway puts the finishing touches to his homemade shed workshop



Cutting list

Plywood	3 @ 2,440 × 1,220 × 9mm
Plywood	4 @ 2,440 × 1,220 × 12mm
Ridge	1 @ 2,440 × 50 × 50mm
Rafters	4 @ 1,675 × 50 × 50mm
Purlins	4 @ 2,340 × 50 × 50mm
Overhang supports	4 @ 1,800 × 50 × 50mm
Side frames	
Uprights	4 @ 1,525 × 50 × 50mm
Uprights	2 @ 1,425 × 50 × 50mm
Top/bottom	4 @ 2,340 × 50 × 50mm
Frame	8 @ 1,145 × 50 × 50mm
Frame	4 @ 230 × 50 × 50mm
Front/back frames	
Uprights	4 @ 2,014 × 50 × 50mm
Back bottom	1 @ 2,322 × 50 × 50mm
Horizontals	3 @ 1,220 × 50 × 50mm
Frame	2 @ 519 × 50 × 50mm
Frame	2 @ 535 × 50 × 50mm
Frame	2 @ 501 × 50 × 50mm
Door frame	4 @ 1,745 × 50 × 50mm
Door frame	6 @ 570 × 50 × 50mm
Hatch frame	4 @ 1,160 × 50 × 50mm
Hatch frame	4 @ 570 × 50 × 50mm
Corolux roof	10 @ 1,830 × 662 × 9mm -profile

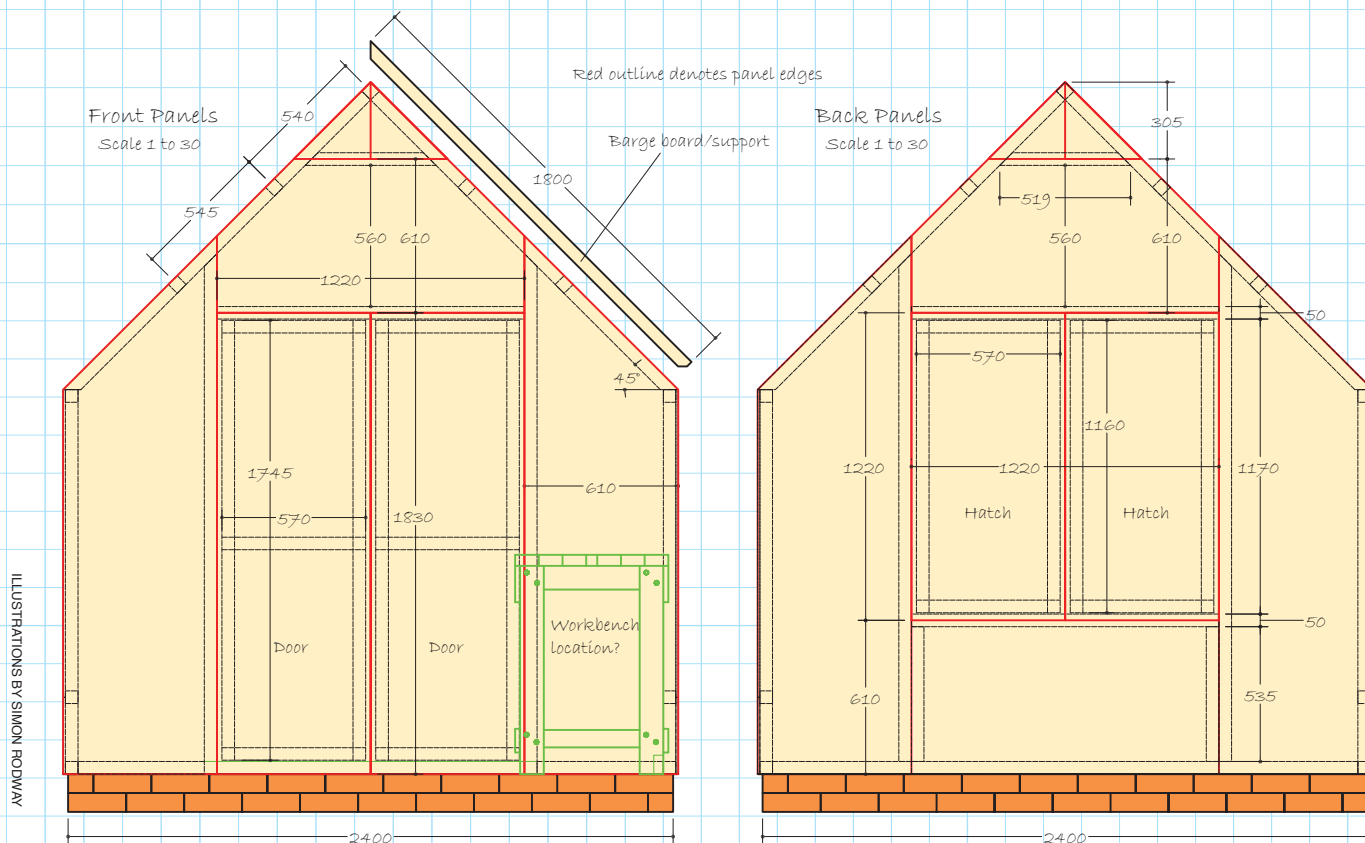
This list covers the main frame components and the total sheet numbers for plywood. No inclusion for groundwork, cladding or gutters, etc.

In the last issue I got as far as constructing the front, back and side panels of the workshop shed, and now to finish it off, I need to add the remaining infill panels, the doors and back hatchway and make it watertight.

The first step is to cut some purlins, two for each side, which run between the rafters at each end and break the span of the roof for the Corolux roof panels. Again, I used a simple butt joint here and simply screwed through the rafters into the ends of the purlins. There is almost no load on these at all and they are there just to minimise any sagging of the corrugated panels. At the same time, add some short noggins around the four right angles made by the ridge and the rafters and when you have finished all of the ply panelling, add some triangular offcuts as braces on the top corners of the roof; this will prevent it from racking back to front.

Doors & back hatch

Now you need to decide on the heights of your doors and also the back hatch, which I've included so that long lengths of timber can be fed from back to front. At the top of the openings for both, position the horizontal framing piece so that the doors and hatch will overlap it by about 20mm – this will give you stops for both. You could do the same along the bottom edge of the hatch as well, but the door is a bit more tricky. I have to admit that I cheated and included a framing piece along the bottom of the door opening as well, which helps to give them something to shut against, but perhaps you can come up with a better solution.



With the horizontal framing in place front and back, add a few infill verticals where needed to pick up the edges of the ply panel pieces and then cut and screw the infill panels to the framing. You can see from the dimensions that I've kept to that I tried at all times to minimise cutting and waste and maximise the use of each ply sheet, and for me, part of the fun of building a shed like this is seeing how much coverage I can get, using each corner and offcut as far as possible.

To build the doors and hatchway, I cut out pieces to fit from 12mm ply and using some more 50mm square section to create frames with halving joints, I screwed each frame to the backs of its ply cutout. However, although this works perfectly well, especially for the hatch at the back, I would now probably consider making a frame which went around the edge of the door, protecting the plywood edges and giving greater rigidity. Alternatively, you could try to source some recycled doors and add a bit of character to your shed, although they are likely to be quite a bit heavier and the frame would need beefing up a bit either side of the opening.

Roof supports

The next pieces to add are the pairs of roof supports on the front and back, which allow you to overhang the roof sheet. I have just shown a single piece on each side, but you may want to increase this by using some packing pieces between the supports and the plywood. This could allow you to overhang your sheet by up to 100mm and anything which increases the coverage and roof shelter is a bonus.

Cladding

With these in place, you can start to add the cladding, but give your plywood a couple of coats of a decent

weatherproofer beforehand, paying particular attention to any exposed edges, especially along the bottom of the shed. Since the shed is now structurally very strong, your cladding can be as thin as you like – it's just a raincoat. This is another opportunity for recycling in fact and I clad part of my shed by reusing some closeboard and other fencing panels I had spare, giving the whole lot a coat of green weatherproofing so that it didn't look too patchwork for the neighbours. If you use short galvanised pins, you can just nail directly onto the plywood sheets.

Any additional weathering that you can add around the openings and along the bottom edge is a good idea: run a small batten along the bottom edge of the sides, front and back, for example, before you start fixing any horizontal boards, as this will tilt the bottom board outwards and help to throw the rain away from the shed. Run a piece of angled timber along the top edge of the doors and hatch for the same reason; unfortunately, because the doors open outwards, it's difficult to weatherproof the vertical edges – I just carefully overlapped the cladding at the corners.

The roof

Last but not least, add the roof. I used mini-profile Corolux roof sheet, which is widely available – cheaper on the internet – and has special fixing clips. You can buy it with a transparent or translucent finish and if your shed is likely to get a lot of sun, use the translucent on the sunny side, as it can get very hot inside in the summer. Position the top edge of each sheet about 10mm down from the top corner of the ridge; this will allow you to place and fix my special solution for ridge weatherproofing – an inverted piece of gutter! It's also a really good idea to use a bit of gutter – the right way up – along the bottom edges of the roof, which will help to minimise runoff onto the shed sides. ■

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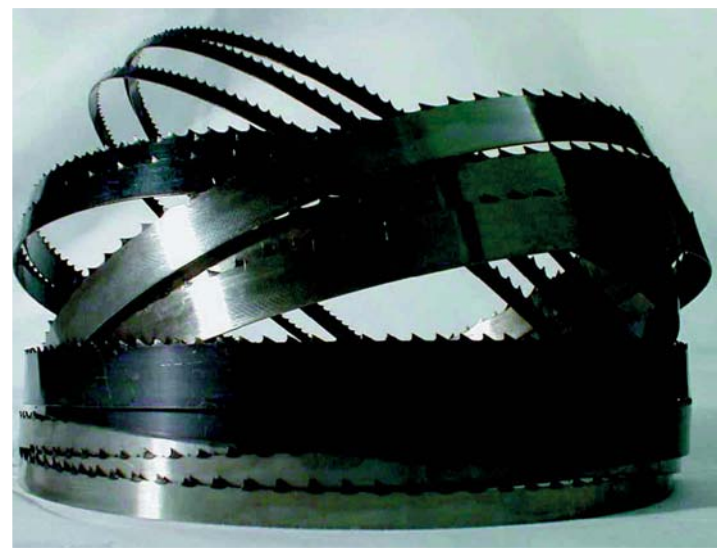
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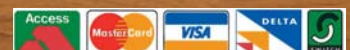
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Niwaki sharpening products

PHOTOGRAPHS BY GIMCANTHONY BAILEY

A while ago I looked at some Japanese pullsaws courtesy of Niwaki who import and sell direct here in the UK. This time I decided to try two sharpening-related products: a Shapton 2000 mesh ceramic stone with holder and some camellia oil.

Japanese Shapton Glass Series stones

Niwaki supply Japanese Shapton Glass Series stones in 320, 500, 2,000, 4,000, 8,000 and 16,000 mesh grades. I generally finish up with a 1,200 mesh diamond plate so the 2,000 mesh medium grade sent to me by the owner of Niwaki, Jake Hobson, was slightly unfamiliar territory as I manage perfectly well to get a good edge without resorting to such a fine stone. Ceramic is a different kind



Niwaki Japanese Shapton Glass Series stones are available in 320, 500, 2,000, 4,000, 8,000 and 16,000 mesh grades

of material as denoted by its name of course. Each grade is bonded to a glass plate and mine came with a special holder, which will accept all the different grades. It too has a bonded glass base but its only function is to elevate the stone and give a perfectly flat reliable base to work on. Ceramic can be damaged, so it needs to be cared for – definitely worth looking after.

I thought I would tickle up the tired edge of the carbon steel blade from my ancient Stanley 4½in smoother using water with a touch of washing-up liquid as a lubricant. With just a few strokes, the blade that had last been working on punishing MDF edges became lethally sharp as evidenced by me touching the edge very lightly – you know that feeling when you cut yourself shaving? Well, it was just short of that – the nerves under my rather tough epidermis – outer skin – sensed it was wickedly sharp. I didn't risk any further contact but fitted it back in the plane to produce some nice fine shavings. Maybe there is something to this superfine edge business after all?

It would be interesting to explore finer grades still, to see what effect they have on the degree of sharpness. Of course, if you are still using an old clogged up oilstone, then this won't interest you, but perhaps it should?

THE NUMBERS

Shapton Glass Series ceramic sharpening stones: from 320-16,000 mesh – from £36-£89 for single stones – also available as a set
Camellia oil: £7.50 for 100ml (prices inc VAT)

CONTACT

www.niwaki.com



Niwaki
Great Stuff from Japan

Camellia oil

Speaking of which, Niwaki supply camellia oil, which is a thin, light natural japonica oil with paraffin added to it. After using water when sharpening, this oil is perfect for rust prevention and giving a sheen to the metal – wiping towards the blade edge of course. It is also good for giving a sheen to the whole of the plane, to saws, chisels, measuring tools, etc. It isn't heavy and smelly like standard lubricating oils and is a pleasure to use. No doubt good for the skin, too!

Camellia oil is great for rust prevention and giving a sheen to the metal



Logosol joinery machines

Build your business with joinery machines from Logosol



With Logosol's joinery machines you can produce everything from furniture to windows. The machinery suits woodworking workshops that have high demands on quality. One example of Logosol customers who have built their business with machinery from Logosol is Christian and Therese Sämberg, who run the farm Gurseröd in Bohuslän, Sweden.

The farm has an impressive assembly of joinery machinery from Logosol, consisting of the panelsaw PS315, the jointer/planer H410 and the vertical milling machine MF30. Besides the joinery machines the Sämberg couple also have a band sawmill, a two-sided planer/moulder and a wood kiln from Logosol.

With this equipment they plan to develop their business into a full-time occupation where they refine their own forest into high-value products. "Since the farm is situated in an area where there are a large number of summer homes, there is a market for special joinery," says Christian, who is very happy with the machines.

The machines that Christian and Therese Sämberg have bought are very versatile when it comes to creating valuable joinery products. The panelsaw PS315 cuts the workpieces to size with millimetre precision. Its circular sawblade has precision adjustment of height and angle, and the rip fence can be fitted standing or lying depending on the height of the workpiece. The panelsaw is the

machine you use first in almost every woodwork project.

The jointer/planer H410 is ideal when you want to save time. This machine does not require reconfiguration between jointing and planing operation. This way you keep the fine-tuned setting of the jointer table, which is easily lost on machines where the jointer tables are folded up when you are going to plane. You can go directly from jointing to planing operation without even switching the motor off. This means that you work as if you had two separate machines.

With the vertical milling machine MF30 you get three machines in one: a tenoning machine, a mortiser and a vertical milling machine with tiltable spindle. The entire motor unit with the spindle can be tilted through 270°, which means that you can process the workpiece from below, from above and from the side. You save space in your workshop since the machine can do so many operations. It can be supplemented with accessories and tools that enable you to produce almost everything within woodworking. The MF30 can do everything from processing timber lengthwise and crosswise, to milling complete window frames and complicated furniture parts. You get



Time for joinery!
Christian Sämberg is producing windows and interior joinery using Logosol's machinery

PHOTOGRAPHS COURTESY OF LOGOSOL



Vertical milling machine MF30

Spindle diameter: 30mm
Spindle accessory for end milling: 6-20mm
Max. tool dia. (standard duct): 200mm
Max. tool height: 130mm
Spindle revs: 3,000, 6,000, 9,000rpm
Spindle revs for shank end milling: 3,000, 6,000, 9,000, 14,000rpm
Fence length: 1,100mm
Fence height: 152mm
Electrical system:
Voltages: 1 phase and 3 phase
Spindle tilt: 270°
Vertical movement: 500mm
Horizontal movement: 350mm
Motor output: 3kW
Sliding carriage length: 1,100mm
Sliding carriage width: 350mm
Sliding length: 1,087mm
Table length: 900mm
Table width with carriage: 750mm
Table height: 850mm
Weight: 375kg
Price: £4,476 (inc VAT)



Jointer/planer H410

Overhand:
Table width: 310mm
Table length: 1,400mm
Cutting depth: 0-10mm
Fence size: 152 x 1,100mm
Thickening:
Table width: 410mm
Table length: 630mm
Max. planing width: 410mm
Max. planing height: 260mm
Max. cutting depth: 4mm
Price: £3,288 (inc VAT)
Cutter head: 72mm dia.
No load speed: 6,000rpm
Motor output: 3kW
Feed rollers: 32mm dia.
Feed motor power: 0.18kW
Standard feed rate: 6m/min
Variable feeding (option): 2-12 m/min
Weight and electrical system:
Weight: 195kg
Electrical system: 3-phase, 400V
 Also available as 1-phase 220V
Thermoguards: On each motor



Dimensioning saw PS315

Blade height: 0-104mm
Blade arbor: 30mm dia.
Blade diameter: 315mm
No load speed: 4,400rpm
Blade tilt: 0-45°
Motor output: 3kW
Voltages: 1 phase and 3 phase
Dimensions:
Distance between saw blade and resaw fence: 800mm alt. 400mm
Sliding table length: 1,250mm
Sliding table width: 350mm
Sliding table cutting length: 1,235mm
Table length: 900mm
Table width: 750mm
Table height: 850mm
Weight: 29kg
 Extensions tables are available as extras
Price: £3,492 inc VAT

WHERE TO BUY

www.logosol.co.uk

LOGOSOL

access to several functions that you can otherwise only find in significantly more expensive machines.

Logosol also have a fourth joinery machine, the multi-planer MH410. This machine is ideal for a woodworking workshop. For a modest investment, you get both efficiency and several valuable functions. The MF410 is the same machine as the H410, but it is also equipped with a side cutter. You can joint two sides and then, in one operation, plane the other sides. With moulding knives in the side cutter you also get an efficient machine for moulding floorboards or panelling, for instance. With this joinery machinery line, Logosol offers you professional machines with a small footprint and at the right price!

LOGOSOL is a Sweden-based international company developing and selling unique machines and services within wood processing and woodworking. ■



Above: High precision in your woodworking shop with the panelsaw PS315

Right: These wide floorboards illustrate the capacity of the MH410



Hot Stuff

Take a look at the tools, gadgets and gizmos that we think you will enjoy using in your workshop

Makita Combo kits – new varieties available

Makita Combo kits offer multiple tool packages sold as a single kit and provide you with a useful combination of tools. The two latest Combo kits also offer a variety of battery options from the Makita 18V Lithium-ion range.

The new Makita DLX2040 2-tool Combo kit features the new DHP481 two-speed combi drill that will run up to 2,100rpm and deliver 31,500 impacts per minute to punch a 16mm bit through masonry. Similarly, the Makita DTD129 18V impact driver has both the brushless motor, which gives increased run time and compact design. The next kit is the DLX2040 high torque brushless twin-pack kit, which delivers complete with DC18RC fast-charger in a robust MacPac case. The six-piece Combo kit, DLX6017, includes a jigsaw, rotary hammer drill, combi drill, circular saw, impact driver, torch, fast charger and three 3.0Ah Lithium-ion batteries, and last but not least, the DJV180 jigsaw has a 26mm stroke length and will cut up to 135mm timber.

To find out more about the full range of Combo kits and their individual specifications, see details below.

CONTACT: Makita
TEL: 01908 211 678
WEB: www.makita.co.uk



From
£680

Trend bearing-guided cutters video

Trend has added a new addition to its extensive video archive – a video which looks specifically at bearing-guided cutters for your router. This comprehensive guide shows you exactly how to use your bearing-guided cutters, as well as focusing on the different types available and their applications. The video library is easy to find on the website homepage and includes a whole host of video clips using Trend products.



CONTACT: Trend
TEL: 01923 249 911
WEB: www.trend-uk.com

Prices correct at time of printing and inclusive of 20% VAT. Photographs and information courtesy of the manufacturers



From
£102

FatMax Technician case

The new FatMax Technician case from STANLEY features a tough glass fibre reinforced polypropylene body with heavy-duty metal latches. Sure to withstand the toughest of applications, the case is ideal for tradesmen on the move and is available in two models. Removable dividers and cups allow for own customisation to enable flexible and accessible storage of essential tools. The patented accordion internal structure enables full visibility and accessibility of tools to assist with the job in hand.

To see the full range of FatMax accessories, see details below.

CONTACT: Stanley
WEB: www.stanleytools.co.uk

Axminster Trade Series XP380s extractor

This 'L' Class XP380s extractor has been designed to be a tough, no-nonsense machine for extracting dusts from hand-held power tools. The power head is made from drawn steel, which is then epoxy coated and houses the highly efficient TwinFlo motor. Sound deadening keeps the noise very low and a plug-in replaceable power cable is fitted as standard. The integral PCB provides power to the external socket and powers up the vacuum motor once you turn on your power tool. Auto shut-off after you turn off your power tool keeps the hoses clear.

The container of the extractor is equally strong, being made from Numatic's own Structafoam material. The Tritex filter system traps 99% of dust down to 0.5 microns in size. HepaFlo bags are recommended for use to ensure safe waste disposal.

A set of castors allows easy movement. The kit includes a 3m hose with clips to hold your power tool cable, a stepped rubber adaptor, an alloy floor wand and a 300mm floor tool.



£419.95

CONTACT: Axminster Tools & Machinery
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DIY FIXES

Room upgrade

We thought we would take a look at some of the conversion work that has taken place in the lounge area of a Victorian farmhouse that we know well, and see how it was done

Nowadays, we all expect to be able to sit and relax in a room we call 'the lounge' except of course in a Victorian farmhouse there was no such thing! This property was long overdue for a rebuild and expansion to suit busy modern family life but it hasn't been easy and it certainly hasn't been quick. Effectively two rooms have been knocked into one and the complex services, e.g. electric, broadband, telecoms, water and gas, now found in all modern

properties, have had to be installed as discreetly as possible. At the same time, the character of the house needed to be kept while making it a comfortable room to be in. There is still more to do in the rest of the house but this room plus the kitchen, dining room and wine cellar have been successfully completed.

The fireplace

1 A key feature was to be a woodburning stove, but not

any old one – it needed a 'water box' on the rear, which would then connect to a radiator in the room so heat would be present around the whole of the rather awkward to heat, L-shape room. Apart from altering the brickwork in the hearth area, a very substantial oak (*Quercus robur*) beam has been installed above the rather dusty but new woodburner. You can buy beams like this from specialist oak suppliers and have them cut to size and dried ready for use.

Safety Note

All building works are subject to building regulations and all utilities should be fitted by qualified installers.



1

Don't be surprised if some splits appear in the dry room atmosphere; this is normal, especially for oak, but it will hold its integrity well.

2 The finished fireplace looks vastly better even though there is still some work to do. The solid hearth is essential for any stove or open fire but it now has a wooden surround at the front to tidy up the hearth and give a finished front edge to it. This is screwed together and then planted in place using plenty of builder's mastic. Once the beam and surround received their finish and the stove was cleaned up, it looks totally different of course. The wall above the beam has been infilled by using plasterboard on studwork. The flue vents through the wall behind and upwards to the roof chimney above.



2



3



4

Electrics

3 This open and uncompleted boxing in to the left of the fireplace is effectively the main conduit for a variety of electrical services. The junction box will carry a large percentage of the wiring for the lounge as there are plenty of halogen downlighters and decorative ceiling lights. The timber framework and plasterboard is connected at the left-hand side to a steel beam that partially gives support to three steel I-beams that run across and above the ceiling to carry the weight of the floors and wall above.

4 Again, the finished picture is completely different. A dimmer switch panel and ring circuit 13amp sockets have been installed and to the left is a large ladder-type radiator, which runs off the woodburning stove via discreet pipework and is gravity fed, i.e. no pumping is required, just the movement of the hot water around the pipe circuit.



Supporting beam

5 Above the fireplace and to the left is a load bearing steel I-beam similar to the one running to the left of it and perpendicular to this one, except it is hidden above the ceiling while this one is below ceiling height for practical reasons. You can see that it has been partially clad in plasterboard using battens and builder's mastic to fix it in place.

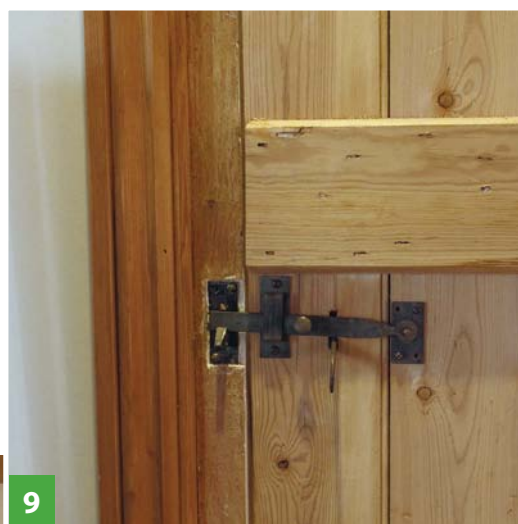
6 Finally the I-beam has disappeared leaving a clean, smooth painted boxing that blends into the ceiling. Not everyone is perhaps aware that Building Regulations require steel beams to be clad in at least two layers of inert plasterboard because in the case of a fire steel deforms, causing building collapse. Compare this to massive section oak supporting beams, which merely char around the outside instead!

Doors

7 This being a farmhouse, the original tongue & groove pine (*Pinus spp.*) doors were heavily ledged but not braced and thick with paint. It's always a shame to lose a feature like this so the owners decided to have them stripped and refinished. Note the simple wrought iron latches, which still work and the painted over T-hinges.

8 Another amazing transformation after a visit to a professional dip-and-strip outfit. Now pickled completely clean and treated to plenty of hardening paste wax, they look great. However, it is interesting to see how different they look when compared to the modern fast-grown pine architrave and skirtings.

9 Close-up detail showing the original and very functional door latch. Note also that the tongue & groove panels have a round bead edge, which helps to disguise the joins. You can create edge bead moulding with a router using an edge bead cutter, which are available from companies such as Trend or Wealden. It is one of my favourite cutter types and is especially useful for disguising where doors meet together. Note also the long puncture marks in the door ledges where rectangular section cut nails have been used to assemble the door.





10

Exposed beams

10 The lounge has new oak floor joints, which act as exposed beams by fitting plasterboard to softwood battens set upwards on the sides of each joist. The light fitting is just a temporary one and the single small diameter hole drilling won't weaken the joist. However, care must always be taken to avoid that situation occurring by rerouting cables and pipework. In addition, any pipes or wires must have a special metal plate fitted on top of each joist to protect them against nailing or screwing through the floorboards on top.

Windows

11 Nowadays, it is quite common practice to install uPVC windows and doors with all the advantage of maintenance-free, long life, non-rot plastic double glazing, but then to fit wood inside the window reveal and a wooden cill below. This gives the best of both worlds because it still gives a traditional feeling to the room while having smart finish and weather protection outside. You can install hardwood windows and doors built to a modern standard, but of course they can be expensive and will need maintenance in the future.

12 With the room fully decorated, including the window surround finished with a suitable combined woodstain and varnish, it all looks so different. The curtain fabric has been carefully chosen to suit the stained wood and the cream paintwork on the walls.



11

13 When a house is being rebuilt there is confusion in terms of construction methods and uneven surfaces that all need blending together. This is one of the doorways that now has a stripped pine door hung in place. An original oak lintel has been cemented over ready to take the plasterwork that will level the surface. At this stage, it is often difficult to see that a half finished room in a mess...

14 ... will ever look like this! We would like to thank Mike and Mandy Bartter for letting us poke around and look at the good, the bad and the ugly of their very successful and pleasant lounge rebuild. ■



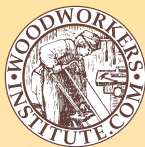
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13



14



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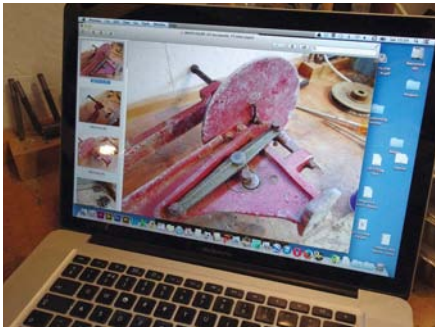
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Fretsaw restoration

The Editor restores a handed down fretsaw, which was given to his daughter, Amber

Like any avid tool junkie, my daughter Amber is collecting among other things, fretsaws. The old-fashioned foot or motored type, nowadays referred to as scrollsaws. Her grandpa recently gave her an old and rather derelict model, which was on a dirty wooden board, complete with a heavy and rather dangerous looking motor and pulley attached to it.



1 The first thing I did was to take photographs so we could see exactly what went where. Then, during reassembly, I kept the laptop on the bench to help understand how each nut, bolt, washer and strange bit of metal needed to be reattached.



2 All the rusty, dirty, greasy fittings were carefully removed and put in magnetic parts trays for safety, although there were some brass components too. Everything was then washed and cleaned with a dewaxing agent and an old toothbrush.

PHOTOGRAPHS BY GMC/ANTHONY BAILEY



3 The main body casting was quite crude, but seemed functional enough to work again as a fretsaw. However, the aluminium had started to corrode so a diluted solution of aluminium cleaner used on car wheel rims and based on phosphoric acid was used to pickle the corrosion off the casting ready for a repaint.



4 Once completely dry, the body was repainted with some Hammerite Direct To Metal paint we had in stock. The circular table for cutting on would be in contrast pink, as it was for my daughter.



5 All the small metal components were meticulously cleaned and derusted or polished up as necessary and then fitted back into place, taking care to ensure there were no spare parts left over! The entire mechanism for driving the blade movement was tested to make sure it moved easily.



6 The last thing apart from finding a new piece of small diameter blower pipe to clear sawdust, was refitting the table now it cleaned and rubbed bright on the top surface. With the main drive pulley in place we are now looking for a cheapish compact motor to replace the old unsafe one. Then, this vintage piece of kit can hopefully live again! ■



PROJECT DECONSTRUCT – *Ideas and techniques*

Pergola

I was recently called upon by my mother to help re-treat her garden bench, something that is required every 2-3 years to keep it from decaying. As part of this, I decided to give the untreated Pergola I built for her, to provide some shade about 12 years ago, a thorough inspection. I hate building in maintenance to projects, so when we created the Pergola I used some surplus iroko (*Milicia excelsa*) and declared to a sceptical mother – always the most demanding client, with the exception of your wife – that it did not require any treatment. It has weathered down nicely over the years to an array of silver and grey colours with some lichen, etc. in places. There is some minor warping and

12 years ago, **Chris Grace** made a shady arbour for a garden seat and it's still holding up well

twisting of the thinner parts, but no discernible rot and it's still structurally sound. In part, this is due to placing the legs on slabs to keep them clear of the soil and perpetual damp, but also to the choice of timber.

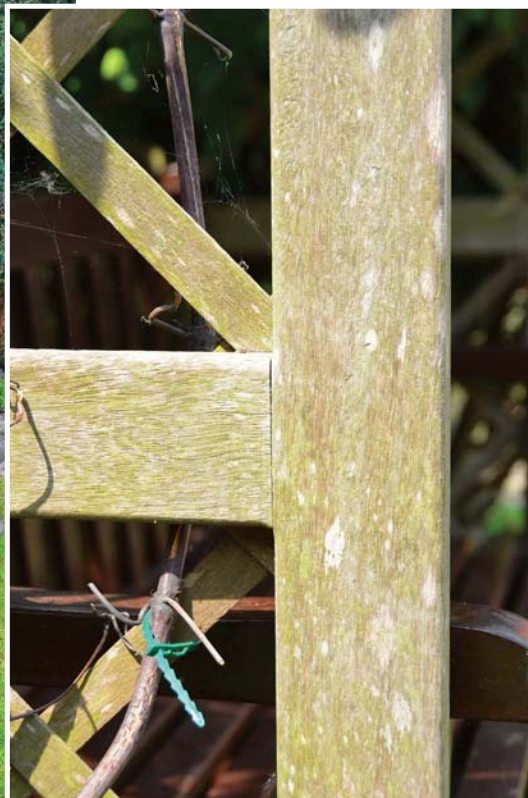
The original request, 12 years ago, was to help my mum choose a pergola to provide shade in her garden for her favourite bench. Having looked around at the available offerings on the market, predominantly in softwoods, and having seen one in a local garden slowly collapse over a few years, I decided that it had to be made from hardwood and designed and constructed to last. I had talked myself into yet another job!

The pergola was made using pieces of leftover iroko



Making the frames

I had surplus iroko from a decking project, so I designed the pergola around the sizes of timber I had and the bench it was to go over. I used half-planks to form the uprights and rails, before planing them all. I glued the side and rear frames, then clamped and screwed them into place with counterbored holes, which will later be plugged. I achieved a tight and well-aligned butt joint by using clamps loosely placed across the joint, together with longer ones to pull it together before screwing.



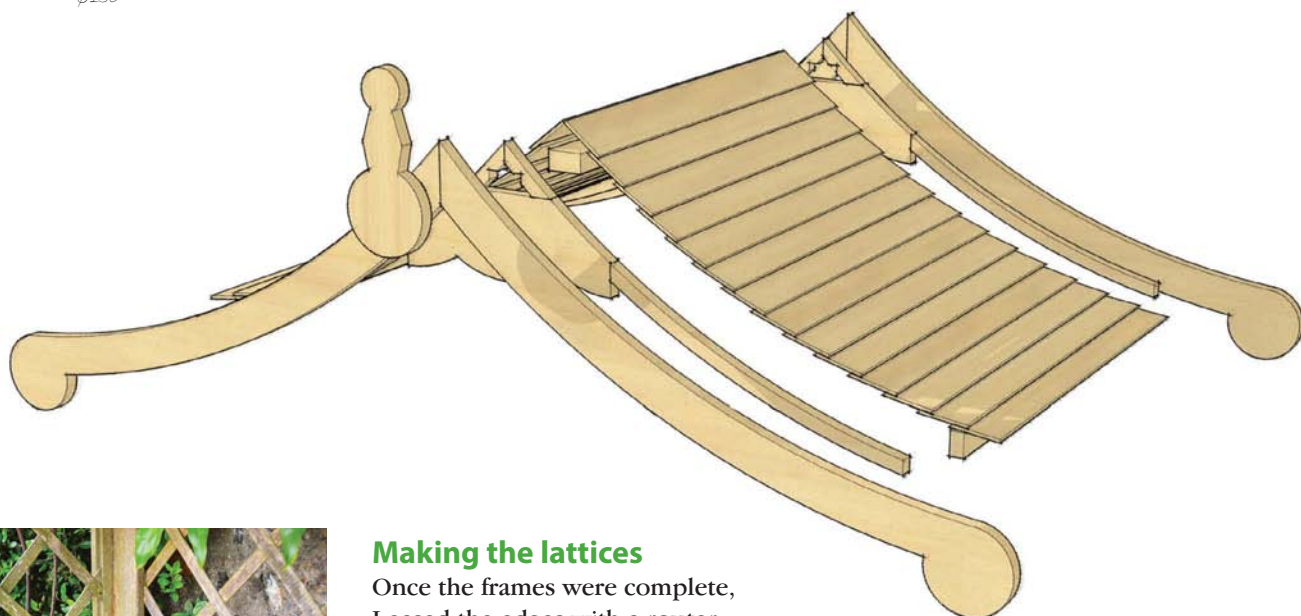
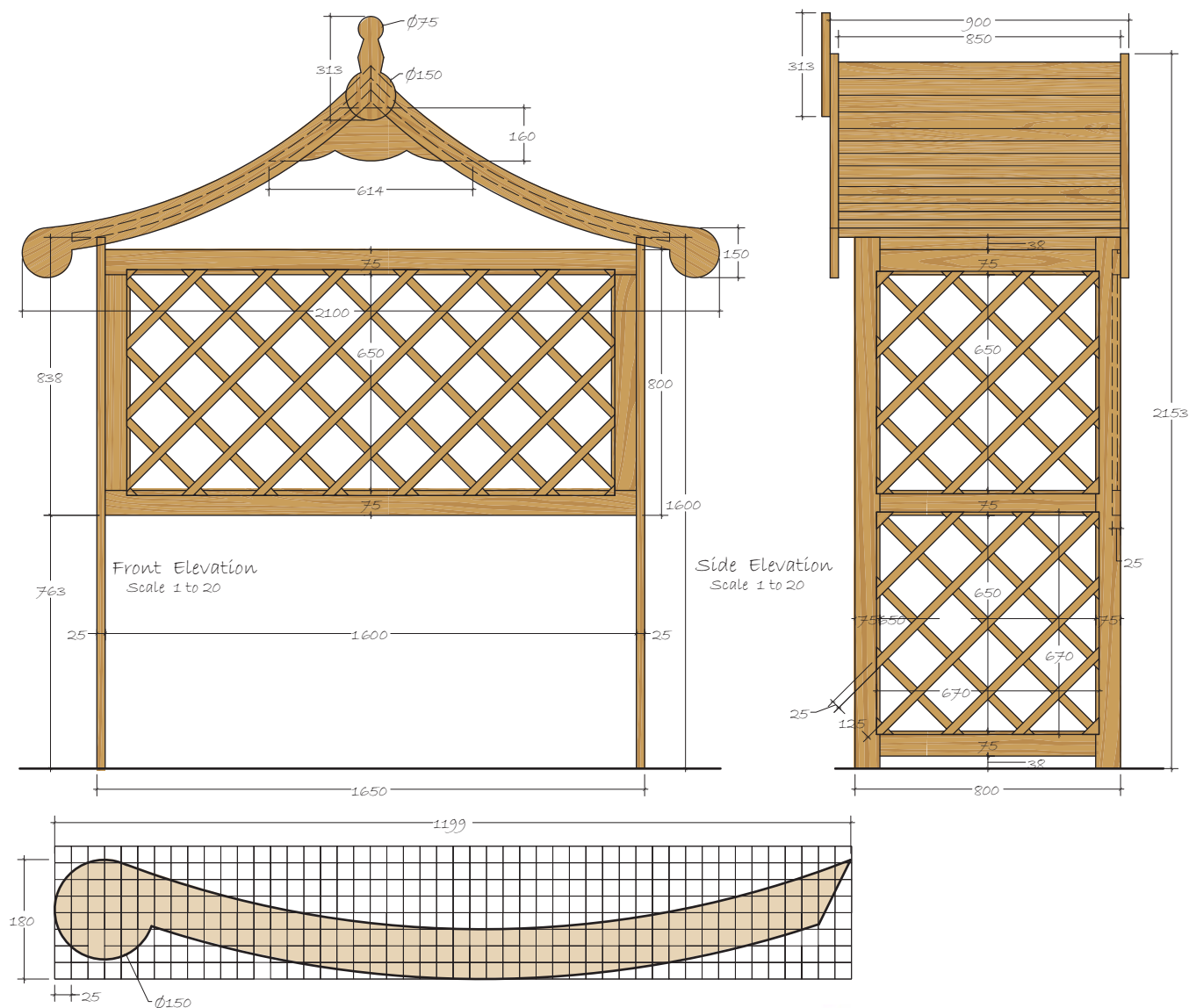
A tight and well-aligned butt joint was achieved by using a selection of clamps



The side and rear frames were glued then clamped together



Half-planks were used to form the uprights and rails



The lattice was installed one layer at a time and then the other at 90° on top

Making the lattices

Once the frames were complete, I eased the edges with a router and created a rebate to take the latticework. The lattice is simply ripped with the help of a tablesaw and the finish on mine was good enough for this project.

I attempted to weave the lattice, but the iroko was too stiff and I wasn't happy with the result, so it was

installed one layer first and then the other at 90° on top. When I installed the lattice, I cut small triangles so that the top layer could be screwed into the frame rebate without distorting the wood. I screwed the rear panel to the top of the sides on installation.



A central front-rear beam was installed in the peaked roof for rigidity



Some different timber was used for the exterior roof slats



The main roof beams were bandsawn out of wide boards and some of the curved offcuts were used to support the roof slats

The peaked roof

The peaked roof needed to be well braced to avoid it splaying and collapsing over time. A central front-rear beam was installed for rigidity.

The main roof beams were bandsawn out of wide boards and some of the curved offcuts were used to support the roof slats. I joined them with beams at the sides, which enabled me to create a slight overhang at the front.

By this stage in the process I had run out of wood in suitable sizes, so a quick trip to a local timber merchant got me some 1.50m × 50mm lengths that could be bandsawn down to 6mm-thick roof slats.

Adding decoration

It was now time to add some decoration. As my mother was keen on yoga at the time, my wife suggested I incorporate chakras into the design. I selected three designs I thought I could carve and set to the task, armed with just a knife. Not easy in iroko, but the result was acceptable and mum was delighted with the 'personalised' decoration. I placed the solar plexus – the third chakra – on the left, the sacral – second chakra – on the finial and the heart – fourth chakra – on the right lobe.

Installation took all three of us a couple of hours, as we had assembled the main components, arranged slabs for it to sit on, nailed on all of the roof slats and hoisted that into place. The whole thing was screwed to foundation slabs with stainless brackets. ■



The whole structure was screwed to foundation slabs with stainless brackets



The third chakra was placed on the left, the second chakra was placed on the finial and the fourth chakra was placed on the right lobe



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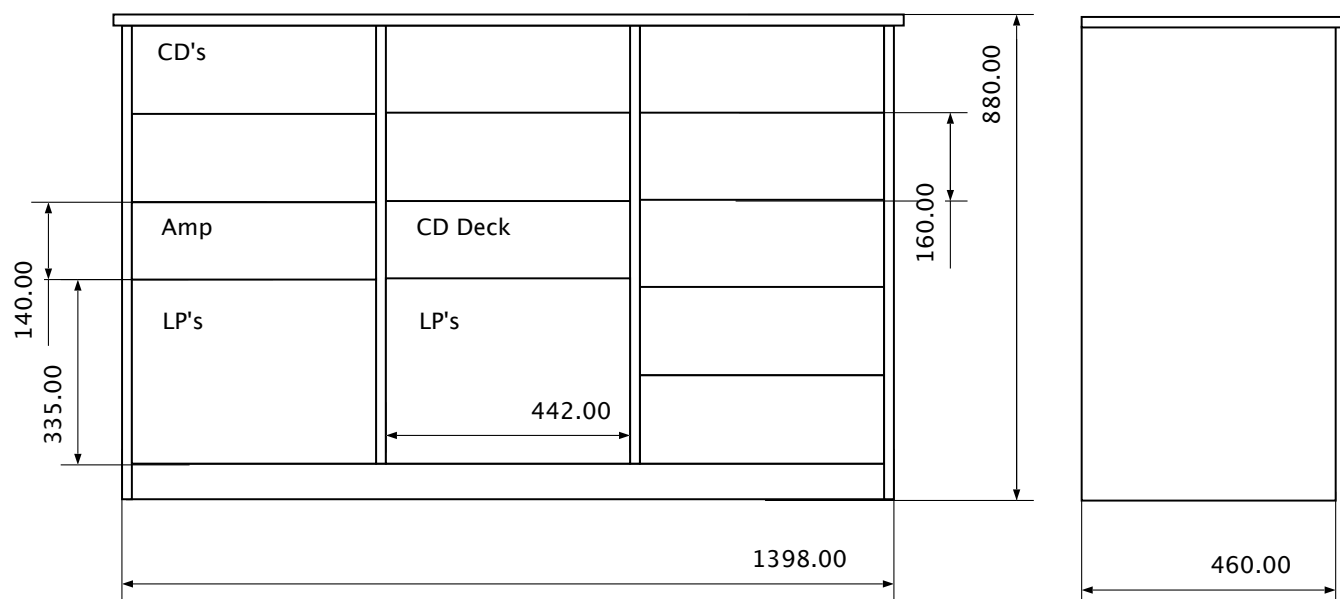
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Cutting lists

Now **the Editor** has looked at his hi-fi cabinet design from every angle, we think it's about time he drew on this experience and came up with a cutting list for making it

CREATING A CUTTING LIST

Any project of any size is a series of steps or processes. It can be a new build or restoration, but to do it properly requires some planning. So far, we have drawings made to suit certain requirements in terms of size, shape and capacity. However, in my experience with man-made board material in particular, there is usually too much or too little left when the cutting list is made up. A cutting list should be an accurate list as far as possible of all the component sizes and the numbers of each component needed and what material it will be made from. A typical list usually contains some solid timber as well as man-made board material. Cutting lists for purely solid wood projects will not

have any board material listed except where jigs or templates are needed. This list is required before we can do anything else.

Board drawing

Since this hi-fi unit is mostly board material, which comes in 2,440mm × 1,220mm sizes, it is important to work out all the sizes, so enough board gets ordered but also to maximise board usage and reduce waste. I have been known to use narrow boards biscuit jointed together to get the right width so that is a trick I'll keep up my sleeve once I know how economical the cuts are likely to be. Unlike working with solid timber, it is perfectly sensible to do scale drawings of boards and then draw out

the components so they can best fit. Using CAD on a computer makes this process quick and easy; it is slower using pencil and ink as I have used in the previous articles in this series.

Board choice

Although I had in mind exactly what each part of the hi-fi unit would need material-wise, as I drew it out I still needed to put numbers to it. Generally speaking, the carcass will be the most heavily built part of the design so it is strong and can cope with the loading of the interior. So this will be made from 19mm maple (*Acer campestre*) veneered MDF: the top, ends and base plus the two vertical divisions. Apart from the open storage spaces there are a series of

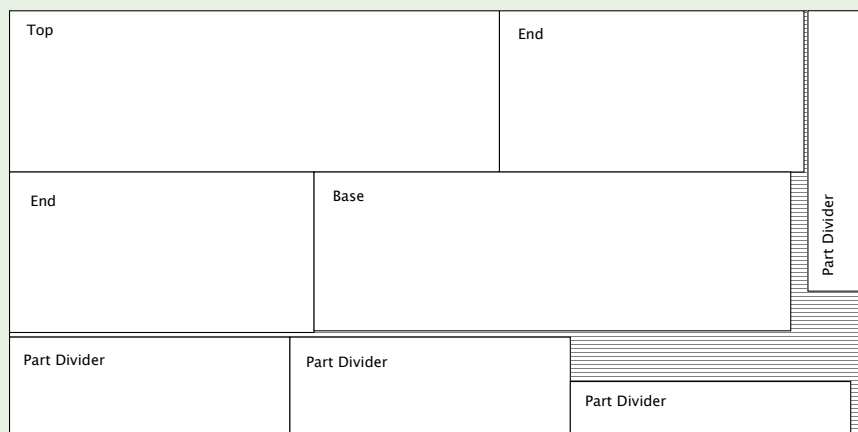


nine drawers all of one size. I wanted the plant-on fronts to be the same 19mm veneered board but the drawer boxes are to be 12mm veneered MDF with 6mm ditto as the bases. Because these shapes are smaller than the carcass, the material thicknesses therefore reduce accordingly so the drawers aren't too heavy, which in turn also helps to maximise the

drawer capacity. The drawers need to look good when they are open so I felt veneered 6mm board for the drawer bases was justified. Spare board can then be used for the carcass back panel, which is necessary to stop the carcass collapsing so it must be fitted and it will also help to keep dust out. If I find there is more of one board thickness leftover but a shortage of

another, then I will need to be creative and rethink the design slightly in order to keep both the cost and wastage down. Although the drawer boxes and back panel are subject to slight adjustment once the carcass has been built, I can be pretty confident about the board area they will take up so I can now plan out the cuts and see how it will all fit.

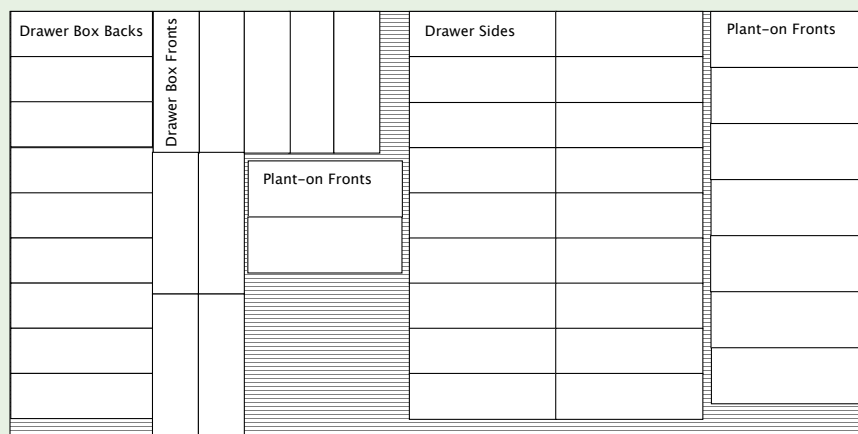
FINAL CUTTING LIST



Board one

Maple Veneered 19mm MDF

Top: 1,398 x 460mm x 1 off
 Base: 1,360 x 453mm x 1 off
 Ends: 870 x 460mm x 2 off
 Part width dividers:
 800 x 290mm x 2 off
 800 x 163mm x 2 off
 Drawer fronts: 440 x 160mm
 x 9 off



Board two

Maple Veneered 12mm MDF - sizes approximate and to be checked once carcass is built

Drawer front & back: 405
 x 130mm x 18 off
 Drawer sides: 420 x 130mm
 x 18 off

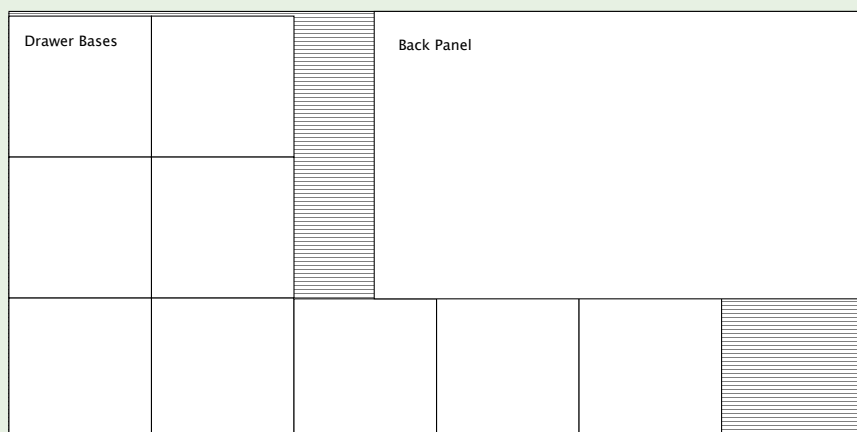
Board three

Maple Veneered 6mm MDF - sizes to be checked once drawer box sizes are known

Drawer bases: 403 x 408mm x 9 off
 Back panel: 1,398 x 820mm x 1 off

Edging tape: 1 x 20 metre roll

Solid maple lippings: 1.5m x 19 x
 19mm x 1 off
 1.0m x 19 x 19mm x 1 off





If you study these board layout drawings you can see I have ended up using some crafty compromises to minimise waste and avoid buying extra boards. The planted-on fronts for the drawer boxes are to be cut from 12mm veneered board rather than the intended 19mm board; this has released enough 19mm material to make the unit base and also the dividers, which are in two pieces each, biscuit jointed together. One rearmost piece has its grain running the wrong way but it won't be visible. Lastly, the front of each drawer box has the grain running vertically as I feel this isn't as critical as at the back of the drawer where it would be more visible. Any cross grain splintering can be hidden better too as it will lie against the

plant-on fronts. Laying them out like this has allowed me to lay the plant-on fronts correctly 'with the grain'.

CUTTING OUT BOARDS

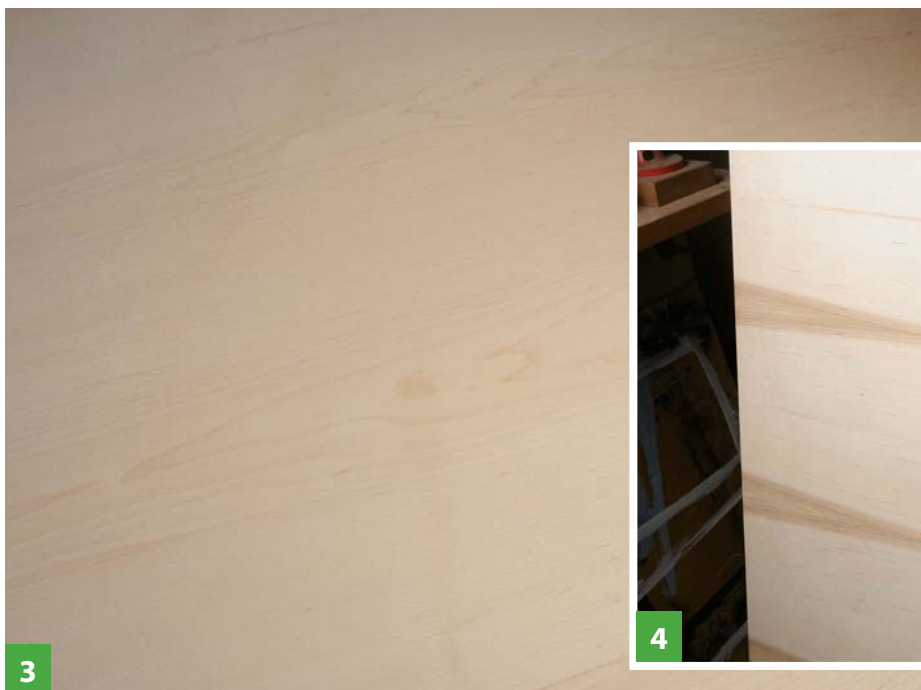
1 I confess that trying to get all the components out of just three quite expensive maple veneered boards was a bit of a sweat, but having drawn it all successfully meant I could now cut the boards for real and avoid mistakes – hopefully. To cut full size 2,440 × 1,220mm boards, more commonly known as 8 × 4s, I would need sufficient support to carry both the cutoff part and the remaining section of board. Luckily I can use my flat topped workbench with some battens underneath so I can't damage the bench. An alternative are sawhorses

or other work supports, but strictly speaking you need four so you have proper support.

2 The next thing is having a circular saw with a sharp blade, set so it will just cut through the board thickness. It would need adjusting each time as I work from the 19mm board down to the 6mm board thickness. If the TCT teeth just project through board it should make for cleaner cuts.

3 Veneered boards have an 'A' and a 'B' side. The 'A' is the best veneer, which usually displays a 'crown' pattern in strips of even matching colour.

4 The 'B' side is normally the same veneer species unless otherwise specified. It is also in strips but has a straight grain pattern and there may be colour variations in the grain.





5



6

5 A key point is the 'factory edge' on a board is straight but often a bit damaged by handling. Each cut needs to be slightly wider so this rough edge can be sawn off afterwards to the exact size.

6 A guiderail for the saw is far better and more accurate than using a batten, which can flex or be bent out of true.

7 A series of four battens or strip offcuts need to be placed underneath the board; this will help to keep the board off the support surface with the saw blade projecting through slightly, which will produce a good finish.



7



8 The saw runs precisely along the guiderail, which is aligned with measured pencil marks. If a longer cut is needed, the saw can be left stationary and plunged and the guiderail lifted and slid along before restarting the saw.

8



9 The first rip cut is a stopped cut, because next a crosscut to take off one of the part dividers is needed at the end of the board.

10 The top is now crosscut to length – the work supports under the board are clearly visible. Once the main crosscutting is done, what was a large unmanageable full-size board now becomes a lot easier to handle.

11 A fine-tooth blade and the guiderail make short, neat work of removing the damaged 'factory edge'.

12 A neat stack of all the carcass parts now ready for assembly.



Next time, the top will have its solid lipping, all biscuit jointing will be done and the back rebated to take the back panel ready for assembly ■



PROJECT DECONSTRUCT – *Ideas and techniques*

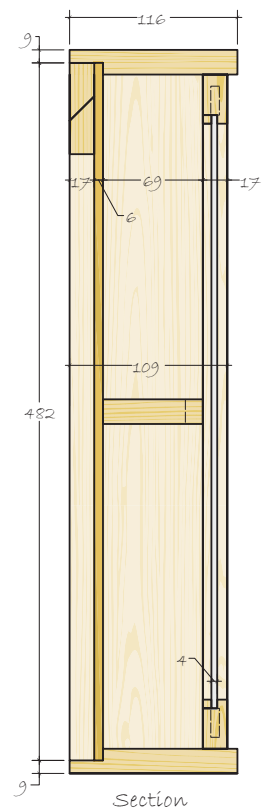
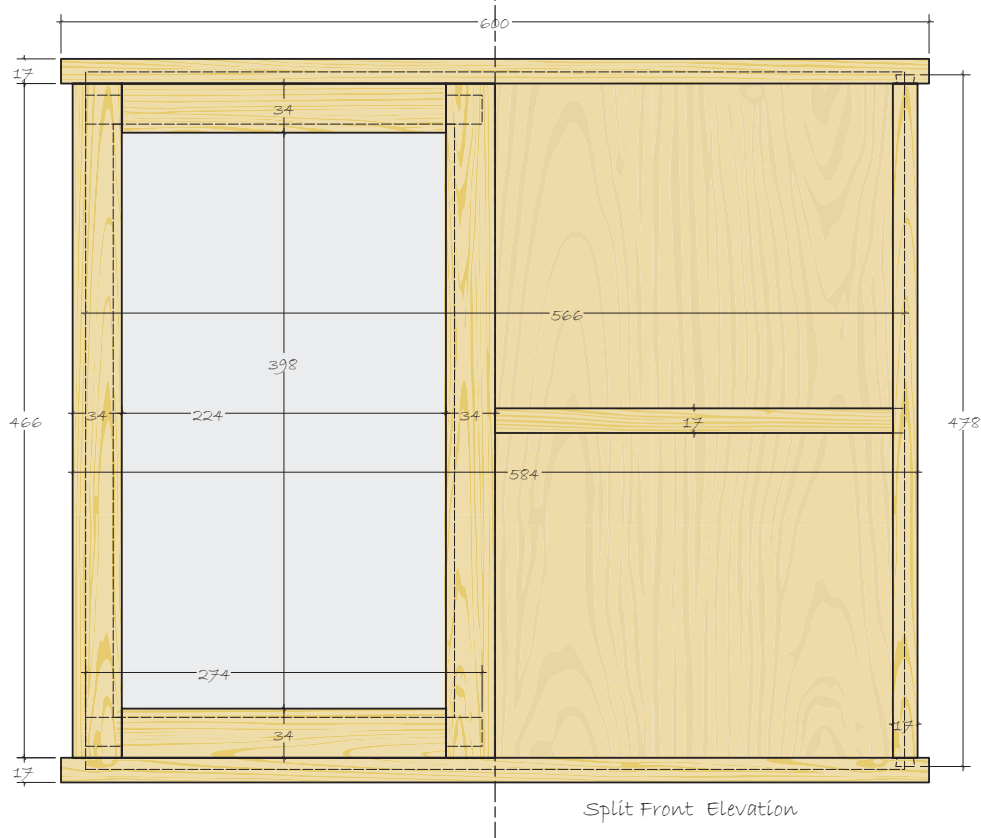
Oak bathroom cabinet

Jamie Lake deconstructs his oak bathroom cabinet project

I made this cabinet out of necessity, as we used to have a cheap melamine-faced chipboard bathroom cabinet. This was fixed to the wall for four years, when we noticed mould appearing on the inside and running down the wall after showers and when there was steam in the room. We took it off the wall and there was mould all over the back! So, I decided to make a new one.

Design

To fit the bill, the cabinet had to be easily removable to allow for cleaning, it had to be shallower than usual to stop me banging my head when I used the sink and had to have a finish that would withstand the ever-changing humidity of a bathroom – with no extractor. I decided to make the cabinet out of oak (*Quercus robur*) for its beauty and rigidity. The only embellishment I allowed for was the top and bottom to overhang the sides and front and to have the edges rounded over. I didn't want to make the unit too fussy or it wouldn't fit in well in our modern bathroom.



A French cleat is a good method for mounting wall cabinets



Neat top corner detail seen from one end



The sliding dovetail joint ensures the top stays in place



The other half of the French cleat screwed firmly in place



Construction

I used biscuits to join boards together to make panels wide enough for the cabinet. As this cabinet was going in the bathroom I didn't want the carcass joints to fail due to movement, so I decided to use sliding dovetail joints. The sockets were cut using a router and straightedge and the pins were cut on the router table. The sides were grooved to accept the shelf; the shelf was rebated at the ends so that I would not see an unsightly gap if movement occurred. The doors are constructed with tongue and groove joints; this was done on the router table and samples were made and kept for future reference. The back panel was made out of plywood, which I painted with some bathroom gloss paint. This made it easy to clean and mould resistant.

All of the components for the cabinet were sanded down through the grits to 240 before the cabinet was glued up. The cabinet was glued up first, but the back panel was left off so it would be easier to apply the finish to the cabinet. The doors were glued up and everything was checked for square and left to dry.

Finishing

Once everything was dry I gave it a final sanding and started to apply the finish. After some research, I decided to use Osmo Poly-X oil as it boasted mould resistance. First I applied Osmo wood protector and then two coats of Poly-X oil. I must say that I am really

Above: A neat storage solution

Right: The cabinet looks slim and offers a very economical storage solution



pleased with the finish – the cabinet has been in the bathroom for about six months now and still looks new.

When the finish had dried I fitted the back panel in a large rebate to allow room for the French cleat. This was fitted with 20mm brads using a nail gun. The French cleat is just two pieces of oak with a 45° chamfer down its length – one bit was fitted to the unit with some stainless steel screws

and the other was fitted to the wall. The doors were fitted to the carcass with some brass hinges and chrome knobs. The doors stay shut with some rare earth magnets let into the doors and shelf. All that was left was to fit the 4mm mirror glass with some beads of oak. The cabinet was fitted to the wall and promptly filled. My wife loves it as it fits all of her giant shampoo bottles perfectly. Job done! ■



Two shiny knobs finish off the cabinet

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A look at... Perfect rule joints

Mark Ripley shows us his failsafe cutting method for this most difficult of joints

A rule joint needs some specialised equipment and fittings comprising a matched pair of router cutters, one rounding-over bit and one coving bit. I prefer bearing-guided cutters for ease of setting up.

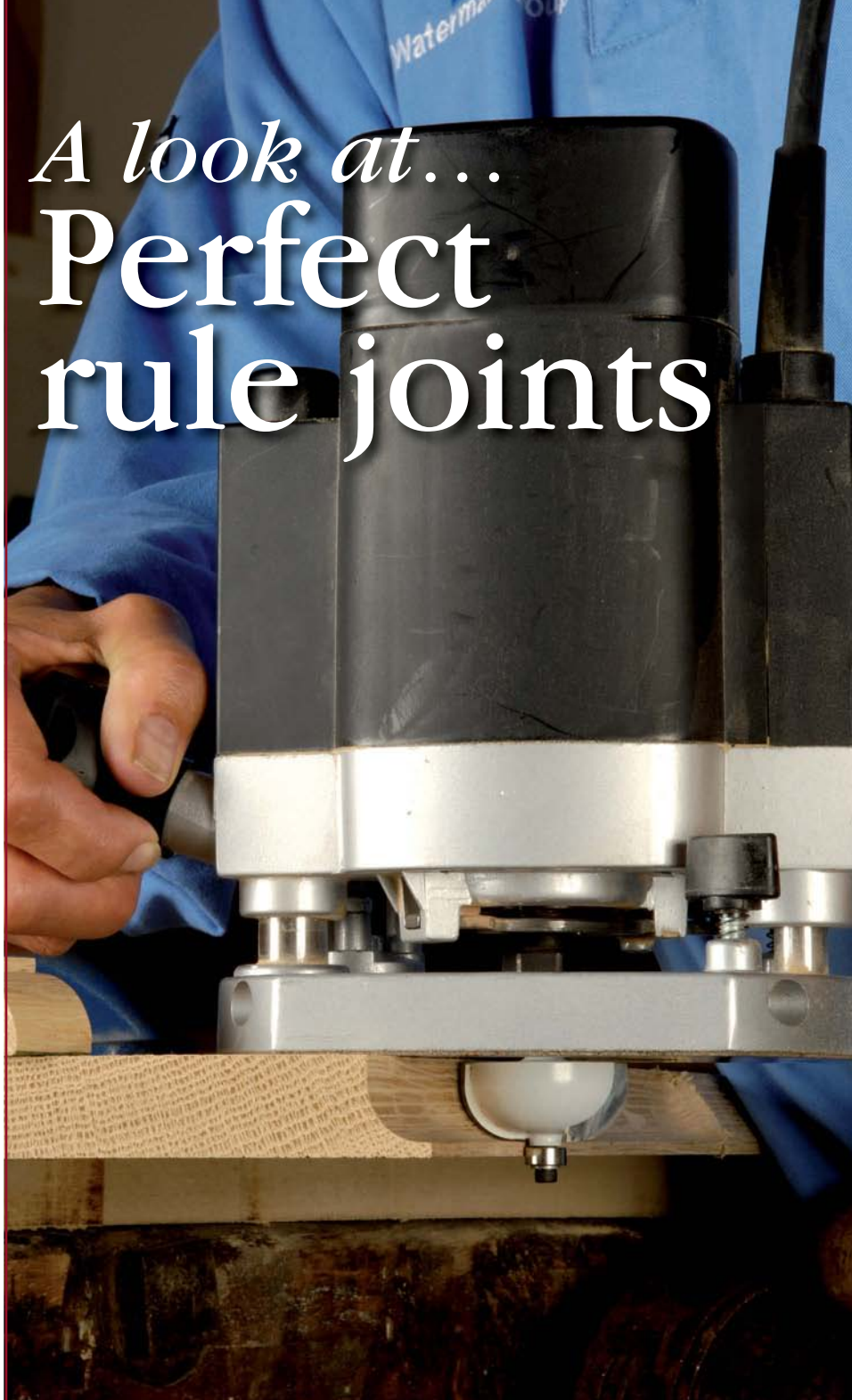
Specialist table hinges are also needed and I go for Isaac Lord's item No.30140, which is the bigger and stronger of the two they offer – see www.isaaclord.co.uk for more information.

The wood should be close to quartersawn for stability; I am not, and this is a view shared by many of my clients, keen on pure quartersawn oak (*Quercus spp.*) because of the medullary rays, so just off quarter works well.

Rule joints are highly visible so design is an important issue. A radius of about two-thirds of the thickness of the tabletop is about right and 16mm-radius cutters are good for table thicknesses of 22-25mm. I'm not sure that a rule joint would work visually in a thicker top and it is unlikely that you would want a dining tabletop of less than 22mm.

Make a drawing

A full-size drawing of the joint's cross-section is essential to work out the settings of the router and the hinge. This then needs to be tried and tested on a mock-up, from which settings for the actual top can be taken.



Round-over cutter and moulding for rule joint

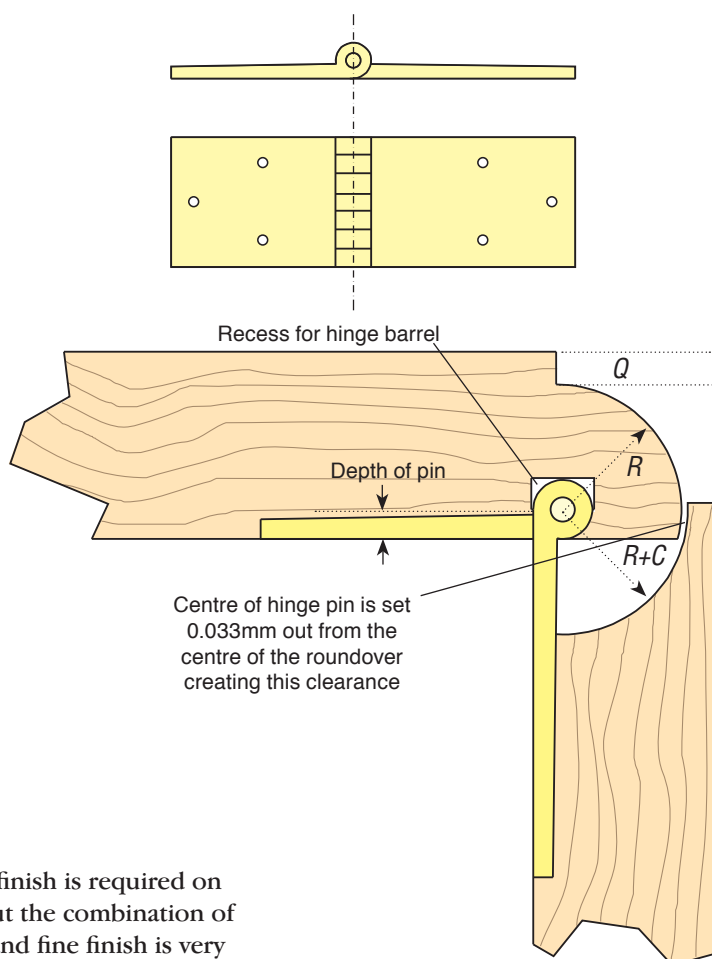
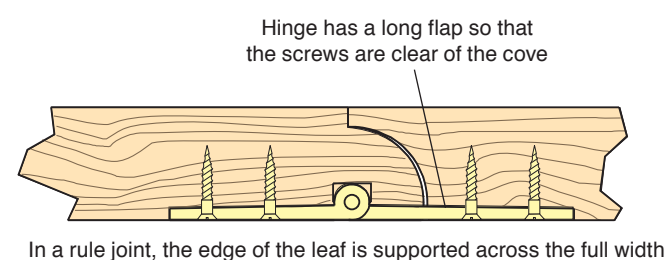
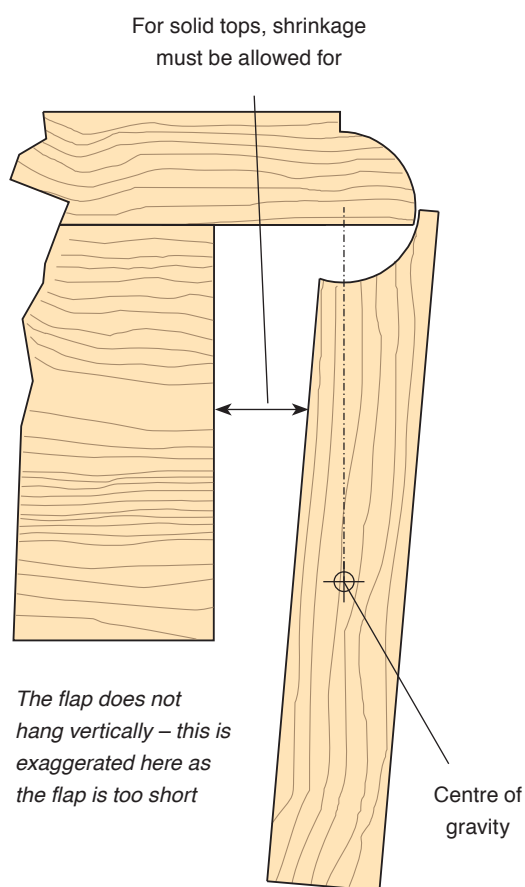


Coving cutter and moulding

PHOTOGRAPHS BY MARK RIPLEY



Rule joint from above (left), from below (middle) and with flap up (right)



Hinges

The hinges are structural, which is why I advocate the biggest size. They also need to be set reasonably close together as they form the only joint between the leaf and the main top.

Easing joint

When the hinges are fitted, it is likely that the joint will rub and need easing off by hand; this is of course preferable to a gap. This easing occurs because of the slight difference in radius due to the width of the tiny clearance needed.

Finishing

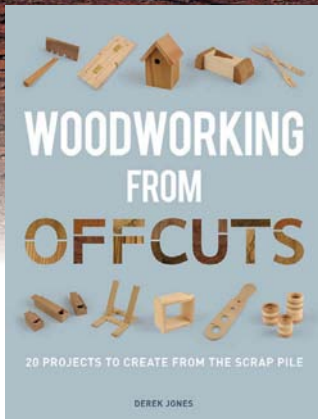
A finely sanded finish is required on the end grain but the combination of moulded edge and fine finish is very attractive.

Practice first

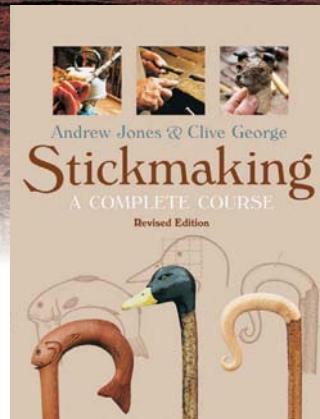
As with any fine woodworking, the best, and quickest, results emerge from careful but positive work. A practice run is a good idea whenever a new technique is being tried. ■

Q = depth of quirk
 R = radius
 C = clearance

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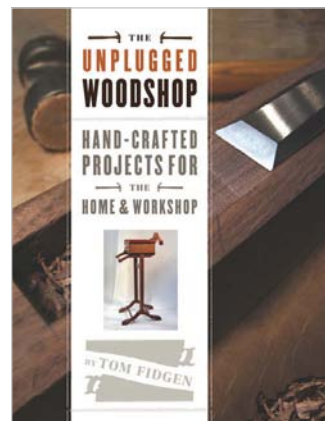
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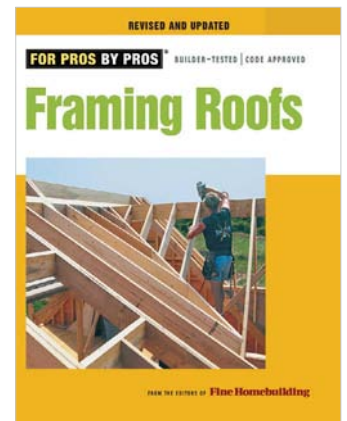
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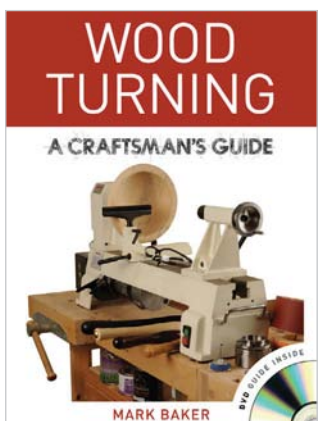
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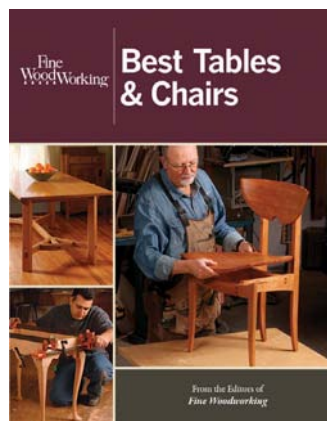
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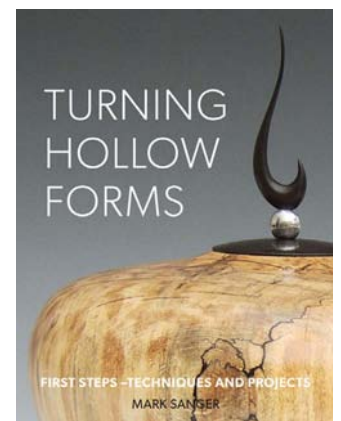
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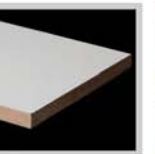
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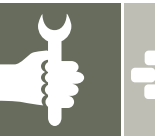
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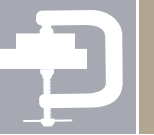
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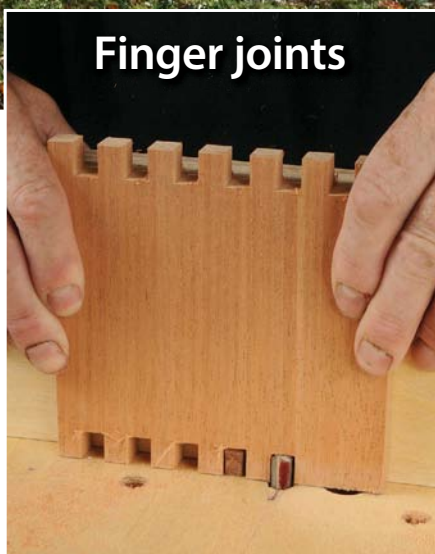
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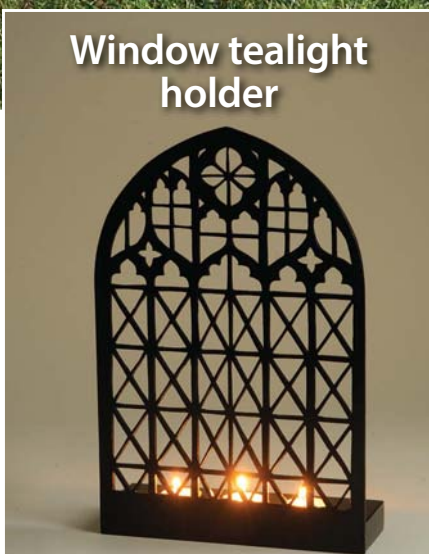
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Finger joints



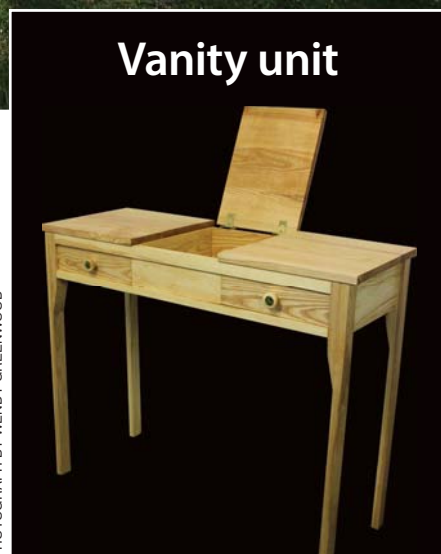
PHOTOGRAPH BY GMC/ANTHONY BAILEY

**Window tealight
holder**



PHOTOGRAPH BY GMC/ANTHONY BAILEY

Vanity unit



PHOTOGRAPH BY WENDY GREENWOOD

**PLUS: Plans 4 You – planters • Tea caddy restoration
Turning project • Grinding wheel care**

New Magic Gripper Pro

This patented but simple effective British invention as proven to be a real second pair of hands, it uses gravity and the weight of the product to create clamp securely. This brand new version with its new body shape the Magic Gripper Pro is stronger and more stable, and with its anti rock square feet makes them easier to control.

Once the Magic Gripper Pro is adjusted to fit the product with no slop its ready to work the jaws will be in the open position until the the door or product is placed into the jaws.

The jaws will automatically close to grip the product tight, More the weight more they grip. To remove your door or product simply lift and the jaws will automatically open and will stay in the open position until you place the product back into the jaws



Specification

Adjustable to Approx 15-54 mm.

New Bigger, Stronger Body Shape.

New Square Feet for More Stability.

Gives excellent support for easy door preparation.

Automatic release for ease of use by lifting out material used.

Strong Steel/Stainless Steel Material. Black composite material.

Quick Uses

Planning doors.

Easily Insert Hinges, Latches Etc.

Creating static benches and mobile benches.

Use to display product such as door samples.

Many More Uses



Optional Extras

The red pads are for working with pre finished surfaces and glass just for that extra peace of mind .

Anti slip pads for working on smooth surfaces creates more grip and helps protect the floor.



PRICE & AVAILABILITY

New Magic Gripper Pro

With dial adjustment feature

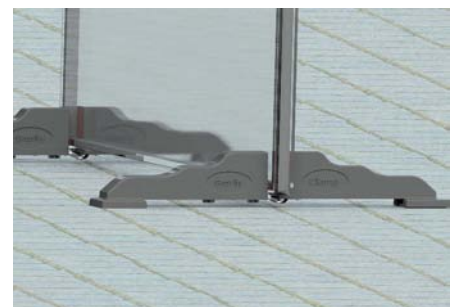
£44.99 inc VAT and UK mainland delivery

Visit www.pro-fitinnovations.co.uk

For further information

Optional Extras

Wheels and bars to turn your gripper into the Magic Gripper Pro Bogie set . This enables you to transport doors, sheet material including glass and Solid surfaces over generally smooth surfaces



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